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		<i>DB=USPT; PLUR=YES; OP=OR</i>	
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<input type="checkbox"/>	L2	type-2 near aggregation	0
<input type="checkbox"/>	L3	type near aggregation	187
<input type="checkbox"/>	L4	L3 and shear	28
<input type="checkbox"/>	L5	l3 and viscometer	3
<input type="checkbox"/>	L6	xanthamonas and glue	3
<input type="checkbox"/>	L7	xanthane and glue	31
<input type="checkbox"/>	L8	L7 not l6	31
<input type="checkbox"/>	L9	l8 and viscometer	3
<input type="checkbox"/>	L10	viscomet\$.clm. and (adhesin or adhesion or selectin or fimh or fim-h integrins or syndecans or integrin and ayndecan).clm.	15

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L4: Entry 10 of 28

File: USPT

Dec 10, 2002

DOCUMENT-IDENTIFIER: US 6492469 B2

TITLE: Increased throughput in the manufacture of anionic polymers by reduction in polymers by reduction in polymer cement viscosity through the addition of metal alkyls

Brief Summary Text (23):

We have discovered that addition of selected metal alkyls to solutions of living anionic polymers can afford a substantial reduction in the viscosity of the living anionic polymer cement. It is preferred that the metal alkyl is selected from the group of metal alkyls that interact with C--Li centers to form metal "ate" complexes. As an example of this type of interaction, see the equation below in which an aluminum alkyl is used as an example of the preferred type of metal alkyl and a living anionic polymer chain end as the preferred type of aggregation prone lithium species. The "ate complex" is in equilibrium with the unassociated polymer chain. It is important that this complex is formed reversibly as the "ate complex" is not capable of either initiating or propagating the polymerization of monomer.

Detailed Description Paragraph Table (2):

TABLE 2 Run 1 High Pressure/Shear Low Pressure/Shear S2b Isoprene Step Sample # 1 4  
8 5 2 3 7 6 Temperature Deg C. 77.0 67.0 58.4 45.1 77.9 69.6 59.7 47.4 Pressure  
(Psig) 76.7 72.1 74.1 71.6 45.7 43.2 43.1 41.9 Shear Rate (1/sec) 1891 1470 1226  
1099 944.9 778.4 701.1 591.6 Viscosity (cp) 749 906 1116 1203 893 1025 1135 1308  
Viscosity Change from Previous (%) 0% 0% 0% 0% 0% 0% 0% 0% S2b after TEA Gig 1  
Sample # 12 13 10 16 11 14 9 15 Temperature Deg C. 80.6 69.6 59.3 52.7 78.8 68.7  
61.8 45.1 Pressure (Psig) 74.6 75.7 74.9 74.8 43.7 43.4 45.6 43.6 Shear Rate  
(1/sec) 3910 3387 2420 2269 2012 1896 1481 1393 Viscosity (cp) 352 413 572 609 401  
423 569 578 Viscosity Change from Previous (%) -53% -54% -49% -49% -55% -59% -50% -  
56% S3 Styrene Step Sample # 18 19 17 20 Temperature Deg C. 79.9 46.1 79.5 45.3  
Pressure (Psig) 71.5 73.7 44.3 44.5 Shear Rate (1/sec) 3037 1906 1657 1219  
Viscosity (cp) 435 714 494 674 Viscosity Change from Previous (%) 23% 17% 23% 17%  
S3 after TEA Gig 2 Sample # 24 22 23 21 Temperature Deg C. 79.9 49.8 80.1 47.2  
Pressure (Psig) 72.6 74.1 42.9 43.3 Shear Rate (1/sec) 5019 2807 2730 1796  
Viscosity (cp) 267 487 290 445 Viscosity Change from Previous (%) -39% -32% -41% -  
34% S3 after Termination Sample # 27 26 28 25 Temperature Deg C. 80.1 50.7 81.7  
50.3 Pressure (Psig) 66.9 68.9 42.7 40.6 Shear Rate (1/sec) 6267 3190 3790 2000  
Viscosity (cp) 197 399 208 375 Viscosity Change from Previous (%) -26% -18% -28% -  
16%

Detailed Description Paragraph Table (3):

TABLE 3 Run 2 S2b Isoprene Step Sample # 1 2 3 4 Temperature Deg C. 68.5 70.4 72.2  
72.2 Pressure (Psig) 72.5 45.2 27.8 12.4 Shear Rate (1/sec) 2010 1210 679.3 291.4  
Viscosity (cp) 666 690 756 786 Viscosity Change 0% 0% 0% 0% from Previous (%) S3  
Styrene Step Sample # 5 6 7 8 Temperature Deg C. 70.9 69.6 67.8 72.2 Pressure  
(Psig) 72.0 47.1 27.9 14.1 Shear Rate (1/sec) 1921 1243 709.2 367.5 Viscosity (cp)  
692 700 727 709 Viscosity Change 4% 1% -4% -10% from Previous (%) S3 after TEA Gig  
1 Sample # 9 10 11 12 Temperature Deg C. 71.1 68.5 70.3 72.1 Pressure (Psig) 69.5  
47.2 26.3 13.6 Shear Rate (1/sec) 2828 1801 1059 524.3 Viscosity (cp) 454 484 459  
479 Viscosity Change -34% -31% -37% -32% from Previous (%) S3 after TEA Gig 2  
Sample # 13 14 15 16 Temperature Deg C. 71.0 68.6 69.4 68.4 Pressure (Psig) 70.3  
45.3 26.6 12.3 Shear Rate (1/sec) 4285 2582 1523 718.1 Viscosity (cp) 303 324 322

316 Viscosity Change -33% -33% -30% -34% from Previous (%) S3 after Termination  
 Sample # 17 18 19 20 Temperature Deg C. 70.4 69.7 69.5 70.0 Pressure (Psig) 72.6  
 48.1 25.9 13.2 Shear Rate (1/sec) 3894 2368 1345 712.7 Viscosity (cp) 344 375 356  
 342 Viscosity Change 14% 16% 10% 8% from Previous (%)

Detailed Description Paragraph Table (4):

TABLE 4 Run 3 S2a Isoprene Step Sample # 1 2 3 4 Temperature Deg C. 69.7 70.9 68.8  
 71.4 Pressure (Psig) 72.2 43.3 26.1 11.5 Shear Rate (1/sec) 2847 1690 1020 462.8  
 Viscosity (cp) 468 473 473 459 Viscosity Change 0% 0% 0% 0% from Previous (%) S2b  
 Isoprene Step Sample # 5 6 7 8 Temperature Deg C. 65.5 70.9 No Cement Flow Pressure  
 (Psig) 71.5 44.6 Shear Rate (1/sec) 36.75 18.78 Viscosity (cp) 35930 43860  
 Viscosity Change 7572% 9173% from Previous (%) S2b after TEA Gig 1 Sample # 9 10 11  
 12 Temperature Deg C. 71.6 71.3 66.7 72.7 Pressure (Psig) 73.5 44.8 23.5 9.8 Shear  
 Rate (1/sec) 177.4 105.6 40.08 12.11 Viscosity (cp) 7652 7837 10830 14940 Viscosity  
 Change -79% -82% na na from Previous (%) S2b after TEA Gig 2 Sample # 13 14 15 16  
 Temperature Deg C. 69.1 66.7 69.2 70.0 Pressure (Psig) 73.7 47.0 26.0 13.7 Shear  
 Rate (1/sec) 192.5 109 34.12 16.35 Viscosity (cp) 7069 7960 14070 15470 Viscosity  
 Change -8% 2% 30% 4% from Previous (%) S3 Styrene Step Sample # 17 18 19 20  
 Temperature Deg C. 69.4 69.6 69.6 69.6 Pressure (Psig) 74.0 42.9 27.1 10.2 - Shear  
 Rate (1/sec) 247.2 127.5 77.12 20.29 Viscosity (cp) 5527 6213 6489 9282 Viscosity  
 Change -22% -22% -54% -40% from Previous (%) S3 after Termination Sample # 21 22 23  
 24 Temperature Deg C. 69.5 69.5 69.5 69.5 Pressure (Psig) 74.0 46.1 25.8 12.0 Shear  
 Rate (1/sec) 265.4 156 75.2 30.29 Viscosity (cp) 5149 5458 6335 7317 Viscositv  
 Change -7% -12% -2% -21% from Previous (%)

[Previous Doc](#)

[Next Doc](#)

[Go to Doc#](#)

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L4: Entry 16 of 28

File: USPT

May 14, 2002

DOCUMENT-IDENTIFIER: US 6386752 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Coagulation reaction device

Abstract Text (1):

The present invention provides a concentration type aggregation reaction apparatus having a concentration screen, which enables an aggregation reaction to be conducted in sludge and the sludge to be concentrated by separation of a liquid by means of a single apparatus. The concentration screen is in a cylindrical form and includes slits having horizontal openings. A decelerating device is connected to an upper portion of a shaft for an agitator for agitation in the tank and brushes are connected to the decelerating device. The brushes are adapted to revolve along opposite surfaces (on a primary side and a secondary side) of the screen. By use of these brushes, aggregates adhered to the screen are continuously removed.

Brief Summary Text (2):

The present invention relates to an aggregation reaction apparatus which is used for concentrating sludge or semi-liquid waste containing suspended solids, and separating liquid therefrom. Specifically, the present invention relates to a concentration type aggregation reaction apparatus which is capable of effecting an aggregation reaction simultaneously with concentrating sludge containing aggregates and separating liquid therefrom.

Brief Summary Text (4):

In a conventional method for removing suspended solids from sludge or semi-liquid waste, suspended solids in sludge are aggregated by various aggregation methods in a reaction tank, to thereby form pellets, and the sludge in the form of a mixture of pellets and a liquid is subjected to solid/liquid separation in a solid/liquid separation apparatus. By this method, when the concentration of suspended solids in the sludge is low, the volume ratio of the liquid supplied to the solid/liquid separation apparatus to the pellets becomes high and the throughput of the solid/liquid separation apparatus for separation of suspended solids becomes relatively low. As a method for increasing the throughput of the solid/liquid separation apparatus, there has been employed a method of providing a concentration apparatus between the aggregation reaction tank and the solid/liquid separation apparatus or a method of replacing the aggregation reaction tank with a concentration type aggregation reaction apparatus. As compared to the method of providing a concentration apparatus, the method of replacing the aggregation reaction tank with a concentration type aggregation reaction apparatus is inexpensive, and ensures efficient separation using a compact system.

Brief Summary Text (5):

In a concentration type aggregation reaction apparatus in which suspended solids in the sludge or semi-liquid waste are aggregated and the sludge containing pellets is concentrated and subjected to solid/liquid separation, the pellets grow so as to have a particle diameter of from about 2 to 10 mm. A liquid containing the pellets is partially passed through slits for separation provided in the reaction apparatus and discharged to the outside of the system, thus concentrating the liquid containing the pellets (suspension liquid).

Brief Summary Text (6):

FIG. 2 is a general vertical cross-sectional view of a typical example of a conventional concentration type aggregation reaction apparatus. Referring to FIG. 2, explanation is made with regard to how treatment of sludge is conducted by means of the concentration type aggregation reaction apparatus. In FIG. 2, a concentration type aggregation reaction apparatus 1 is substantially in the form of a vertical cylinder. A sludge feeding pipe 6 and a polymer feeding pipe 7 are connected to a lower portion of a side of the reaction apparatus 1. A concentrated sludge discharge pipe 9 and a separated liquid discharging pipe 19 are, respectively, connected to an upper portion and an intermediate portion of the side of the reaction apparatus. A driving device 12 is provided at an upper portion of the reaction apparatus 1. The driving device 12 revolves an agitating blade 15 and a scraper 21, which are connected to a shaft 14 so as to agitate the sludge in an aggregation reaction tank 2 of the reaction apparatus 1. A screen 3 having slits for separation of liquid is arranged in a form obtained by providing horizontally-positioned ring-shaped wedge wires vertically in a stacked configuration and fixing these wires by means of support bars. This structure of the screen is the same as that of FIG. 3 showing ring-shaped wedge wires 22 and support bars 23.

Brief Summary Text (11):

However, an effect of the clogging-preventing mechanism having a simple structure vary, depending on the properties of aggregates produced. Illustratively stated, the degree of adhesion of the aggregates to the slit surface of the screen varies and the mechanism cannot necessarily function as desired, depending on the viscosity of the aggregate pellets and liquid and the particle diameter and shear strength of the aggregate pellets. For example, the conventional clogging-preventing mechanism is satisfactorily effective when the pellets have a relatively large particle diameter and high shear strength, as in the case of treatment of sludge produced in a sewage disposal plant or an activated sludge treatment facility. However, when an aggregation reaction is conducted with respect to a special type of sludge containing particles having an extremely small diameter and having an extremely low content of inorganic matter, which inorganic matter affects the shear strength of the pellets, the pellets are likely to have extremely low shear strength, so that part of the pellets break and clog the slits. In this case, an effect of the clogging-preventing mechanism utilizing a cross flow or a scraper can be insufficient. That is, when the sludge particles or pellets have an extremely small particle diameter and low shear strength and are brittle, conventional concentration type aggregation reaction apparatuses cannot be suitably used.

Brief Summary Text (12):

Accordingly, it is an object of the present invention to obviate the above-mentioned disadvantages accompanying conventional techniques. It is an object of the present invention to provide a concentration type aggregation reaction apparatus which includes a mechanism for preventing clogging of slits of a screen by means of a simple structure, without using a driving device other than an agitator for an aggregation reaction, to thereby maintain stable efficiency of concentration.

Brief Summary Text (14):

In order to achieve the above-mentioned objects, the present invention provides a concentration type aggregation reaction apparatus having a concentration screen, which enables an aggregation reaction to be conducted in sludge and the sludge to be concentrated by separation of a liquid by means of a single apparatus. The concentration screen is in a cylindrical form and includes slits having horizontal openings. A decelerating device is connected to an upper portion of a shaft for an agitator for agitation in the tank and brushes are connected to the decelerating device. The brushes are adapted to revolve along opposite surfaces (on a primary side and a secondary side) of the screen. By use of these brushes, aggregates adhered to the screen are continuously removed. In the present invention, "primary

side" means the side of the screen facing the sludge and "secondary side" means the side of the screen facing a separated liquid.

Drawing Description Text (2):

FIG. 1 shows a general view for explaining a concentration type aggregation reaction apparatus of the present invention.

Drawing Description Text (3):

FIG. 2 shows a general view for explaining a conventional concentration type aggregation reaction apparatus.

Drawing Description Text (4):

FIG. 3 shows a perspective view of a concentration screen used in the concentration type aggregation reaction apparatus of the present invention.

Detailed Description Text (4):

The present invention is illustratively described, in comparison to a conventional concentration type aggregation reaction apparatus of FIG. 2 (hereinafter, frequently referred to as "the conventional apparatus").

Detailed Description Text (5):

FIG. 1 shows a general view of a concentration type aggregation reaction apparatus according to an embodiment of the present invention (hereinafter, frequently referred to as "the apparatus of the present invention"). In the apparatus of the present invention, two primary-side brushes 10 revolve on a primary-side surface (inner surface) of the screen 3 and two secondary-side brushes 11 revolve on a secondary-side surface (outer surface) of the screen 3. The brushes are connected to the agitating blade through the decelerating device 13 having a deceleration ratio of 1/8. The diameter of the bristle of the primary-side brush 10 is 1.0 mm and the clearance between tips of the bristles of the primary-side brush and the screen 3 is 1 mm. The diameter of the bristle of the secondary-side brush 11 is 0.15 mm and the clearance between tips of the bristles of the secondary-side brush and the screen 3 is 3 mm. Because two types of brushes are disposed so as to hold the screen therebetween, the concentrated sludge discharge pipe 9 has a discharge opening in the vicinity of the center of a liquid surface in the reaction tank 2 and discharges the sludge to the outside of the tank through an intermediate portion of a side surface of the tank. Details of the remaining portions of the apparatus of the present invention are the same as those of the conventional apparatus.

Detailed Description Text (6):

In the conventional apparatus, it is possible to conduct an aggregation reaction and concentration, with respect to sludge after sewage disposal or excess sludge after activated sludge treatment of various industrial liquid wastes. However, when the pellets obtained by an aggregation reaction have extremely low shear strength, the pellets are reduced in size due to the effect of an agitating force in the tank, so as to have a particle diameter of about 1 to 5 mm. A part of these pellets can be further pulverized in size so as to have a particle diameter of 1 mm or less, due to friction against the primary-side surface of the screen or the scraper. The pulverized pellets having a particle diameter of 1 mm or less (hereinafter, frequently referred to as "pulverized pellets"), together with a liquid, pass through the screen and enter the sump for a separated liquid. Otherwise, the pulverized pellets can be accumulated on thickness portions of the wedge wires 22 of the screen and clogs the slit openings of the screen. Especially, when a polymer coagulant having high viscosity is used alone as an aggregating agent and the amount of the aggregating agent reaches a relatively excessive level, the pulverized pellets present in the separated liquid sump 4 or on the thickness portions of the wedge wires aggregate again, due to the excess of the aggregating agent, and strongly adhere to the thickness portions of the wedge wires or the secondary-side surface of the screen. Therefore, substantial time can be required

for spontaneous peeling of the adhered pellets.

Detailed Description Text (10):

Next, explanation is made in detail with respect to an example of results of operation of the concentration type aggregation reaction apparatus according to an embodiment of the present invention. The concentration type aggregation reaction apparatus used in this embodiment has the same structure as that of FIG. 1. The effective volume of the apparatus is 1.4 m.sup.3 and the effective screen area of the apparatus is 2.5 m.sup.2. As sludge to be treated, use was made of sludge generated in a liquid waste disposal plant. As an aggregating agent, a cation type polymer coagulant was used alone. The sludge from the liquid waste disposal plant had a high content of organic matter and decomposition of the sludge was highly advanced. When an aggregation reaction was conducted by using the polymer coagulant alone, aggregate pellets which have extremely low shear strength and are brittle were obtained. The sludge was concentrated by about two times and the feeding rate of the sludge was 30 to 50 m.sup.3 /hour. Concentration of the sludge varied by 0.8 to 1.5%. The amount ratio of the polymer coagulant to the SS (suspended solids) in the sludge was about 0.7%. Under these conditions, 24-hour continuous operation of the apparatus was conducted for about 3 months. Results are shown in Table 1.

Detailed Description Text (13):

By use of the concentration type aggregation reaction apparatus of the present invention, clogging of slits for separation can be avoided and high performance of concentration/separation can be maintained for a long period of time without using a driving device other than an agitator for an aggregation reaction, even when aggregate pellets are extremely brittle and small.

Detailed Description Text (14):

As is apparent from the above-mentioned example, in the concentration type aggregation reaction apparatus of the present invention, treatment of sludge could be conducted with a high throughput and a separated liquid having a low SS concentration can be obtained as a treated liquid. The concentration of the concentrated sludge was, for example, about 2.7%. Such a treatment could be conducted by continuous operation for 90 days or more. The average value of the SS concentration of a treated liquid was 440 mg/liter. Therefore, it can be said that concentration/separation could be satisfactorily conducted.

CLAIMS:

1. A concentration type aggregation reaction apparatus for conducting an aggregation reaction and concentration of a liquid to be treated, comprising:

a reaction tank substantially in a cylindrical form;

a concentration screen substantially in a cylindrical form, which is located at an upper portion of the reaction tank; and

a shaft for an agitator for agitation in the tank, the shaft vertically extending through a substantially central portion of the reaction tank and the concentration screen,

wherein the concentration screen includes slits having horizontal openings, a decelerating device is connected to an upper portion of the shaft for the agitator, brushes adapted to revolve along a primary side and a secondary side of the concentration screen are connected to the decelerating device and aggregates adhered to the concentration screen are continuously removed.

2. A concentration type aggregation reaction apparatus according to claim 1, wherein the brushes comprise a primary-side brush having bristles each having a diameter of 0.5 to 1.5 mm and a secondary-side brush having bristles each having a

diameter of 0.05 to 0.9 mm, wherein a clearance between tips of the bristles of the primary-side brush and the primary side of the screen is 0 to 5 mm and a clearance between tips of the bristles of the secondary-side brush and the secondary side of the screen is 0 to 10 mm and wherein the decelerating device has a deceleration ratio of 1/5 to 1/15.

3. A concentration type aggregation reaction apparatus according to claim 2, further comprising:

a baffle plate disposed within the reaction tank so as to facilitate an effect of agitation;

a guide plate disposed above an agitating blade so as to facilitate discharge of sludge;

a draft tube for increasing a flow velocity on a surface of the concentration screen; and

a spray nozzle for reducing clogging of the concentration screen,

wherein the sludge and an aggregating polymer are fed to the cylindrical reaction tank and the sludge after concentration is discharged to an outside of the apparatus through a concentrated sludge discharge pipe having a discharge opening in the vicinity of the center of a liquid surface in the reaction tank.

4. A concentration type aggregation reaction apparatus according to claim 3, wherein the concentration screen comprises a plurality of horizontally-positioned ring-shaped wedge wires arranged vertically in a stacked configuration, the wedge wires being fixed by means of vertical support bars.

5. A concentration type aggregation reaction apparatus according to claim 2, wherein the concentration screen comprises a plurality of horizontally-positioned ring-shaped wedge wires arranged vertically in a stacked configuration, the wedge wires being fixed by means of vertical support bars.

6. A concentration type aggregation reaction apparatus according to claim 1, further comprising:

a baffle plate disposed within the reaction tank so as to facilitate an effect of agitation;

a guide plate disposed above an agitating blade so as to facilitate discharge of sludge;

a draft tube for increasing a flow velocity on a surface of the concentration screen; and

a spray nozzle for reducing clogging of the concentration screen,

wherein the sludge and an aggregating polymer are fed to the cylindrical reaction tank and the sludge after concentration is discharged to an outside of the apparatus through a concentrated sludge discharge pipe having a discharge opening in the vicinity of the center of a liquid surface in the reaction tank.

7. A concentration type aggregation reaction apparatus according to claim 6, wherein the concentration screen comprises a plurality of horizontally-positioned ring-shaped wedge wires arranged vertically in a stacked configuration, the wedge wires being fixed by means of vertical support bars.

8. A concentration type aggregation reaction apparatus according to claim 1,



wherein the concentration screen comprises a plurality of horizontally-positioned ring-shaped wedge wires arranged vertically in a stacked configuration, the wedge wires being fixed by means of vertical support bars.

[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

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L6: Entry 1 of 3

File: USPT

Feb 26, 2002

DOCUMENT-IDENTIFIER: US 6350594 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Cultured plant cell gums for food, pharmaceutical, cosmetic and industrial applications

Brief Summary Text (8):

Microbial fermentation gums such as xanthan gum avoid many of the difficulties associated with harvesting of plant exudates or extraction of algae because production is carried out in fermentation facilities. However, xanthan gum production poses other problems. Xanthan gum is produced by Xanthamonas campestris, which presents a cell disposal problem because X. campestris is a plant pathogen (Scaad, N. W. (1982) Plant Disease 66(10):882-890). Xanthan gum has also been objected to as being too expensive for certain applications such as drilling mud. See, e.g., Kirk-Othmer Chemical Engineering Encyclopedia (3rd. ed. 1981) 17:153.

Detailed Description Text (35):

In the paper industry, prior art gums have been used in wet end beater aids, surface sizes (e.g., size press and calender), pigmented coatings (e.g., blade, roll airknife, and size press coatings), and in adhesives. Sandford, P. & Baird, J., supra. Cultured plant cell gums can be used as substitutes for such prior art gums as locust bean gum, karaya and guar gums as hydrophilic colloids employed in the wet end as beater aids to reduce flocculation of pulp suspensions and improve paper formation. The cultured plant cell gums can also replace prior art gums as a surface size which is typically applied after the formation of the sheet at calender rolls or at the size press. Sandford, P. & Baird, J., supra. As surface sizes, cultured plant cell gums can impart water resistance, oil and solvent resistance, glue holdout, scuff resistance, physical strength, curl control and gloss. The cultured plant cell gums can also replace such prior art polysaccharides as sodium alginate, which is used as a thickener and dispersant in the pigment coating. The purpose of such an additive is to prevent agglomeration, and to produce adequate flow and leveling of the coating, and to prevent pattern or orange peel in the coating. Sandford, P. & Baird, J., supra.

Detailed Description Text (57):

An advantage of cultured plant cell gums over xanthan gum produced by cultured Xanthamonas campestris is that the cultured plant cells do not pose the same cell disposal problem presented by X. campestris, a plant pathogen (Scaad, N. W. (1982) Plant Disease 66(10):882-890). Further, cultured plant cell gums are less expensive than xanthan gum for a variety of applications, including drilling fluids (e.g., Kirk-Othmer Chemical Engineering Encyclopedia (3rd. ed. 1981) 17:153).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 2. Document ID: US 6271001 B1

L6: Entry 2 of 3

File: USPT

Aug 7, 2001

DOCUMENT-IDENTIFIER: US 6271001 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Cultured plant cell gums for food, pharmaceutical, cosmetic and industrial applications

Brief Summary Text (8):

Microbial fermentation gums such as xanthan gum avoid many of the difficulties associated with harvesting of plant exudates or extraction of algae because production is carried out in fermentation facilities. However, xanthan gum production poses other problems. Xanthan gum is produced by *Xanthamonas campestris*, which presents a cell disposal problem because *X. campestris* is a plant pathogen (Scaad, N. W. (1982) Plant Disease 66(10):882-890). Xanthan gum has also been objected to as being too expensive for certain applications such as drilling mud. See, e.g., Kirk-Othmer Chemical Engineering Encyclopedia (3rd. ed. 1981) 17:153.

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 3. Document ID: US 5747297 A

L6: Entry 3 of 3

File: USPT

May 5, 1998

DOCUMENT-IDENTIFIER: US 5747297 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Industrial pharmaceutical and cosmetics applications for cultured plant cell gums

Brief Summary Text (8):

Microbial fermentation gums such as xanthan gum avoid many of the difficulties associated with harvesting of plant exudates or extraction of algae because production is carried out in fermentation facilities. However, xanthan gum production poses other problems. Xanthan gum is produced by Xanthamonas campestris, which presents a cell disposal problem because X. campestris is a plant pathogen (Scaad, N. W. (1982) Plant Disease 66(10):882-890). Xanthan gum has also been objected to as being too expensive for certain applications such as drilling mud. See, e.g., Kirk-Othmer Chemical Engineering Encyclopedia (3rd. ed. 1981) 17:153.

Brief Summary Text (36):

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Brief Summary Text (55):

An advantage of cultured plant cell gums over xanthan gum produced by cultured Xanthamonas campestris is that the cultured plant cells do not pose the same cell disposal problem presented by X. campestris, a plant pathogen (Scaad, N. W. (1982) Plant Disease 66(10):882-890). Further, cultured plant cell gums are less expensive than xanthan gum for a variety of applications, including drilling fluids (e.g., Kirk-Othmer Chemical Engineering Encyclopedia (3rd. ed. 1981) 17:153).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence	Attachments	Claims	KWC	Draw De
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Term	Documents
XANTHAMONAS	134
XANTHAMONA	0
GLUE	59213
GLUES	6985

(XANTHAMONAS AND GLUE) .USPT .	3
(XANTHAMONAS AND GLUE) .USPT .	3

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[Next Page](#)

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☐ 1. Document ID: US 6713460 B2

L9: Entry 1 of 3

File: USPT

Mar 30, 2004

DOCUMENT-IDENTIFIER: US 6713460 B2

TITLE: Glass-like polysaccharide useful as absorbent for liquids

Brief Summary Text (26):

A fourth object of the present invention is an absorbing, particularly a biodegradable, hypoallergen and non-hygroscopic absorbing, composition comprising, in specific ranges: a particulate absorbent according to the first object of the invention, a xanthane gum and a guar gum.

Brief Summary Paragraph Table (1):

TABLE I Comparative features of Grade A starch obtained by the modified Martin and hydrocyclones processes. Modified Martin Hydrocyclones Features Process Process Humidity (%) 10.50 11.4 Ashes (% dry basis) 0.31 0.22 Total lipids (% dry basis) 0.41 0.94 Solubles (% dry basis) 0.34 0.1 Proteins (% dry basis) 0.22 0.27 PH 5.90 6.5 Residual (% dry basis) 0.20 0.09 Cediment (% dry basis) 4.70 8 Amylography and viscosimetry Gelatinisation temperature (.degree. C.) 88.3 86.0 Viscosity at 95.degree. C. (UB) 320 370 Temperature peak (.degree. C.) 95 95 Viscosity peak (.degree. C.) 340 385 Viscosity at 95.degree. C. and after 15 mins (UB) 280 340 Viscosity at 50.degree. C. (UB) 720 730 Glue test Viscosity (s) 53 47 Gel point (.degree. C.) 65.5 64.5 Mousse test After 15 mins (%) 5.1 0 After 30 mins (%) 2.0 0 \*Brabender units

Detailed Description Text (25):

4 to 10.5% by weight of a xanthane gum; and

Detailed Description Text (28):

According to a more preferred embodiment of the invention, the xanthane gum has a viscosity, ranging from 1400 to 1650 cps at a concentration of 1% in water with 1% of KCl and a viscosity ranging from 130 to 180 cps, at 0.2% in water with 1% of KCl, the viscosity being measured by preparing a 1% salt solution of a product by slowly adding a dry blend of 3.0 g product and 3.0 grams potassium chloride to 250 ml of distilled water in a 400 ml beaker, while stirring at 800 rpm using a low-pitched propeller type stirrer, by adding an additional 44 ml of distilled water, rinsing the walls of the beaker and continue stirring at 800 rpm for two hours and, at the end of the period, by adjusting the temperature of the solution to 25.degree. C., by vigorously stirring by hand in a vertical motion to eliminate any thixotropic effects or layering, and immediately measuring the viscosity by using a LV model of the Brookfield viscometer at 60 rpm with No. 3 spindle, and the guar gum has a viscosity after 24 hours of at least 3500 cps, after 30 minutes of 2800 cps.

Detailed Description Text (30):

Xanthane gums which are commonly produced during the aerobic fermentation of sugar

by the yeast *Xanthomonas campestris* have a main D-glucose chain bounded in .beta. (1-4) by the bounding of one glucuronic acid with mannose units. The DS is of 0.33.

Detailed Description Text (31):

Particularly adapted guar and xanthane gums are those commonly used in food industry.

Detailed Description Text (98):

Mixtures of the glass-like starch prepared in example 1 with a 100% xanthane gum commercialized under the code 91 and of guar gum commercialized under the code A-200. Both gums are commercialized by the Company Harold T Griffin were evaluated for their retention. The results of this evaluation are reported in the following table V:

Detailed Description Text (106):

The particulate absorbent as well as the specific mixtures with carboxymethylcellulose (CMCs) and/or with xanthane and guar gums according to the invention are biodegradable and therefore, even when incorporated in disposable structures are not dangerous for the environment. This constitutes a determinant advantage over polyacrylamides and other chemical superabsorbents generally used in disposable absorbent structures which are not biodegradable and which accumulates in the environment.

Detailed Description Text (107):

The particulate absorbent as well as the specific mixtures with CMC and/or with xanthane and guar gums according to the invention which do not irritate nor generate allergy in more than 2% of cases (in fact 100% in the present case) can be classified as hypoallergen as established by the result of a Consumer Product Testing.

Detailed Description Text (150):

Moreover, the particulate absorbent as well as specific mixtures with CMC and/or with xanthane and guar gums does not abrade the matrix in which they are incorporated for their absorbing properties. Therefore the corresponding diaper would not degrade by handling or transportation. Neither will mechanical degradation of the diaper, generated by the granules of absorbent, will occur during manufacturing.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 2. Document ID: US 6455235 B1

L9: Entry 2 of 3

File: USPT

Sep 24, 2002

DOCUMENT-IDENTIFIER: US 6455235 B1

TITLE: Photographic processing element and image forming method by the use thereof

Brief Summary Text (56):

As a substrate of the water-soluble processing element, there are preferably employed polyvinyl alcohol-type, polyethyleneoxide-type, starch-type, polyvinyl pyrrolidine-type, hydroxypropylcellulose-type, pullulan-type, alginic acid-type, phaselan-type, caragienan-type, agar-type, pectin-type, tamarind gum-type, xanthane gum-type, gua gum-type, tara gum-type, roast bean gum-type, arabinogalactan-type, jelan gum-type, cardlan gum-type, starch-type, dextran-type, arabic gum-type,

gelatin-type, polyvinyl acetate-type, hydroxyethyl cellulose-type, carboxymethyl cellulose-type, carboxymethylhydroxyethyl cellulose-type, poly(alkyl)oxazoline-type and polyethylene glycol-type substrates. Of these, polyvinyl alcohol-type and gelatin-type substrates are more preferred. The solids content of not less than 30% by weight, based on total solids is specifically preferred. Preferably used gelatin include any one of the gelatins for photographic use, such as alkali-processed gelatin and acid-processed gelatin. Gelatin derivatives in which at least a part of the amino groups of the gelatin molecule is modified are also usable. The average molecular weight thereof is preferably 10,000 to 200,000. It is specifically preferred that gelatin having a number-average molecular weight of 500,000 or more is contained in an amount of not more than 10% of the total gelatin. Of gelatin derivatives, modified gelatin is preferred, in which the amino group of gelatin is modified by isocyanate addition, acylation or deamination. Preferred examples of modified gelatin include gelatin which is added with phenylisocyanate or alkylisocyanate and gelatin which is allowed to react with acid anhydride such as phthalic acid anhydride or acid chloride such as phthalic acid chloride. The proportion of the modified amino group within the gelatin is preferably at least 70%, more preferably at least 80% and still more preferably at least 90%. The film using the foregoing gelatin may be hardened within the range to meet water-solubility by controlling the kind or amount of a hardener and the reaction time.

Brief Summary Text (58):

The water-soluble processing film can be prepared according to the commonly known methods, as described in JP-A 2-124945, 61-97348, 60-158245, 2-86638, 57-117867, 59-226018, 63-218741 and 54-13565. Examples thereof include a casting method in which a solution containing 5 to 50% solids and having a viscosity of 1500 to 50000 mPa.s (measured by a B-type viscometer) is cast onto a roll heated to about 70.degree. C., a method of continuously casting on a stainless steel belt with drying with hot air, a method of coating by the knife-coating method with cooling to be solidified and then drying out any moisture and a method in which a solution is cast onto a support (e.g., polyethylene terephthalate) running along the manufacturing line while cooling to be solidified, dried and wound up or thermally compressed to another member.

Brief Summary Text (65):

In cases where gelatin is used in the hot water-soluble layer, gelatin aforementioned can be used and a low molecular weight gelatin having an average molecular weight of not more than 50000 and more preferably not more than 20000 is preferred. The gelatin preferably contains a hardener which is denoted as VS in JP-A 10-153833 and has at least 10 carbon atoms, in an amount of 5 to 40 mg per g of gelatin. Water-based polyurethane or polyacryl described in JP-A Nos. 10-291377, 10-76621 and 10-35127 are also preferably employed. Materials employed in the foregoing water soluble processing film are also usable. The thickness of the hot water-soluble layer is preferably 0.2 to 10 .mu.m and more preferably 1 to 3 .mu.m. The hot water-soluble layer is preferably formed by coating a solution having 1 to 30% solids and exhibiting a viscosity of 6 to 100 mPa.s (measure by B-type viscometer), within component layers of the silver halide photographic material and/or processing element, concurrently with these other component layers. These other component layers are insoluble even when subjected to development at a relatively high temperature, while the hot water soluble layer used in this invention is dissolved at a temperature of 50 to 95.degree. C. within 300 sec.

Brief Summary Text (70):

As one preferred embodiment of the processing element of this invention, the processing element preferably has a layer containing a water-soluble adhesive. The water-soluble adhesives include any kind of an adhesive meeting the requirement that when water of at least 20%, based on the weight of the adhesive is supplied, the adhesive exhibits a peel strength of at least 180 g/15 mm in the peeling test at 80.degree. C. (JIS Z-1522). Inorganic adhesives include, for example, alkali silicate; and organic adhesives include, for example, gelatin, glue, starch,



polyvinyl alcohol, water-based vinyl urethane, acryl-type resin such as acrylic acid or acrylamide resin, .alpha.-olefin-maleic acid resin, and water-soluble fiber derivatives such as methyl cellulose, hydroxyethyl cellulose and carboxymethyl cellulose.

Detailed Description Text (22):

Fine powdery PVA KURARIA HM (available from Kuraray Co., Ltd.) was dispersed in water and adding 3% glycerin, suspension was dissolved at 60.degree. C. for 30 min. The solution was adjusted to a viscosity of 2000 mP.multidot.s at 25.degree. C. using a B-type viscometer and then, the pH was adjusted to 6.5. The solution was cast onto polyethylene terephthalate (PET) film, was allowed to stand at a temperature of 60.degree. C. for 4 hrs., and peeled off from the PET to obtain a 45 .mu.m thick water-soluble processing film P-2.

Detailed Description Text (25):

To a 30% solids solution of crystalline powder of cellulose (Avicel, available from ASAHI Chemical Ind. Co., Ltd.) was added a 30% solids solution of a fine dispersion of tricresyl phosphate having a mean particle size of 0.2 .mu.m. The solution was adjusted to a viscosity of 2000 mP.multidot.s at 25.degree. C. using a B-type viscometer and then, the pH was adjusted to 6.5. The solution was cast onto polyethylene terephthalate (PET) film, was allowed to stand at a temperature of 60.degree. C. for 10 hrs., and peeled off from the PET to obtain a 70 .mu.m thick water-permeable processing film P-3.

Detailed Description Text (146):

To aqueous 20% gelatin solution, a 5% solids solution of Avicel (available from ASAHI Chemical Ind. Co., Ltd.), hardener H-5 of 20 mg/g gelatin and a dispersion emulsified with OIL-1 of 5% solids were added and then developing agent CD-4 was further added thereto. The solution was adjusted to a viscosity of 2000 mP.multidot.s at 25.degree. C. using a B-type viscometer and then, the pH was adjusted to 6.5. The solution was cast on polyethylene terephthalate (PET) film, was allowed to stand at a 23.degree. C. and 50% RH for 10 hrs., then dried at 40.degree. C. for 3 hrs. and peeled off from the PET to obtain 70 .mu.m thick water-permeable processing film d.

Detailed Description Text (149):

Fine powdery PVA KURARIA HM (available from Kuraray Co., Ltd.) was dispersed in water and adding 3% glycerin, suspension was dissolved at 60.degree. C. for 30 min. To this solution was added 2.5 g/m.sup.2 of developing agent CD-4, the pH was adjusted to 6.5 and after adding 1.5 g/m.sup.2 of zinc oxide, the solution was adjusted to a viscosity of 2000 mP.multidot.s at 25.degree. C using a B-type viscometer and then, and the pH was again adjusted to 6.5. The solution was cast on polyethylene terephthalate (PET) film, was allowed to stand at 23.degree. C. and 50% RH for 8 hrs., dried at 40.degree. C. for 4 hrs and peeled off from the PET to obtain 45 .mu.m thick water-soluble processing film e.

Detailed Description Text (171):

To aqueous 20% gelatin solution were added a 30% solids disperion of tricresyl phosphate (TCP) dispersed in the form of oil in water and hardener H-5 of 20 mg/g gelatin, and developing agent 4-amino-3-methyl-N-ethyl-N-(.beta.-hydroxyethyl) aniline sulfate was further added thereto. The solution was adjusted to a viscosity of 2000 mP.multidot.s at 25.degree. C. using a B-type viscometer and then, the pH was adjusted to 6.5 with 1/2M sulfuric acid or 1M aqueous sodium hydroxide. Then, 3 g/m.sup.2 of zinc oxide (ZnO) having an average particle size of 200 nm was added and mixed with stirring. The solution was cast on polyethylene terephthalater (PET) film, was allowed to stand at a 23.degree. C. and 50% RH for 10 hrs., then dried at 40.degree. C. and 80% RH for 14 hrs. and peeled off from the PET to obtain a 70 .mu.m thick processing element 11.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 6444653 B1

L9: Entry 3 of 3

File: USPT

Sep 3, 2002

DOCUMENT-IDENTIFIER: US 6444653 B1

TITLE: Glass-like polysaccharide useful as absorbent for liquids

Brief Summary Text (25):

A fourth object of the present invention is an absorbing, particularly a biodegradable, hypoallergen and non-hygroscopic absorbing, composition comprising, in specific ranges: a particulate absorbent according to the first object of the invention, a xanthane gum and a guar gum.

Brief Summary Paragraph Table (1):

TABLE I Comparative features of Grade A starch obtained by the modified Martin and hydrocyclones processes. Modified Martin Hydrocyclones Features Process Process Humidity (%) 10.50 11.4 Ashes (% dry basis) 0.31 0.22 Total lipids (% dry basis) 0.41 0.94 Solubles (% dry basis) 0.34 0.1 Proteins (% dry basis) 0.22 0.27 PH 5.90 6.5 Residual (% dry basis) 0.20 0.09 Cediment (% dry basis) 4.70 8 Amylography and viscosimetry Gelatinisation temperature (.degree. C.) 88.3 86.0 Viscosity at 95.degree. C. (UB) 320 370 Temperature peak (.degree. C.) 95 95 Viscosity peak (.degree. C.) 340 385 Viscosity at 95.degree. C. and after 15 mins (UB) 280 340 Viscosity at 50.degree. C. (UB) 720 730 Glue test Viscosity (s) 53 47 Gel point (.degree. C.) 65.5 64.5 Mousse test After 15 mins (%) 5.1 0 After 30 mins (%) 2.0 0 \*Brabender units From: Les Minoteries Ogilvie Ltd., Montreal, Canada

Detailed Description Text (18):

A fourth object of the invention is an absorbent composition comprising: 79 to 92% by weight of a particulate absorbent for liquid as defined in the above-mentioned first object of the invention; 4 to 10.5% by weight of a xanthane gum; and 4 to 10.5% by weight of a guar gum.

Detailed Description Text (20):

According to a more preferred embodiment of the invention, the xanthane gum has a viscosity, ranging from 1400 to 1650 cps at a concentration of 1% in water with 1% of KCl and a viscosity ranging from 130 to 180 cps, at 0.2% in water with 1% of KCl, the viscosity being measured by preparing a 1% salt solution of a product by slowly adding a dry blend of 3.0 g product and 3.0 grams potassium chloride to 250 ml of distilled water in a 400 ml product and 3.0 grams potassium chloride to 250 ml of distilled water in a 400 ml beaker, while stirring at 800 rpm using a low-pitched propeller type stirrer, by adding an additional 44 ml of distilled water, rinsing the walls of the beaker and continue stirring at 800 rpm for two hours and, at the end of the period, by adjusting the temperature of the solution to 25.degree. C., by vigorously stirring by hand in a vertical motion to eliminate any thixotropic effects or layering, and immediately measuring the viscosity by using a LV model of the Brookfield viscometer at 60 rpm with No. 3 spindle, and the guar gum has a viscosity after 24 hours of at least 3500 cps, after 30 minutes of 2800 cps,

Detailed Description Text (22):

Xanthane gums which are commonly produced during the aerobic fermentation of sugar by the yeast *Xanthomonas campestris* have a main D-glucose chain bounded in .beta. (1-4) by the bounding of one gluconique acid with mannose units. The DS is of 0.33.

Detailed Description Text (23):

Particularly adapted guar and xanthane gums are those commonly used in food industry.

Detailed Description Text (70):

Mixtures of the glass-like starch prepared in example 1 with a 100% xanthane gum commercialised under the code 91 and of guar gum commercialized under the code A - 200. Both gums are commercialized by the Company Harold T Griffin were evaluated for their retention. The result of this evaluation are reported in the following table V:

Detailed Description Text (78):

The particulate absorbent as well as the specific mixtures with carboxymethylcellulose (CMCs) and /or with xanthane and guar gums according to the invention are biodegradable and therefore, even when incorporated in disposable structures are not dangerous for the environment. This constitutes a determinant advantage over polyacryamides and other chemical superabsorbents generally used in disposable absorbent structures which are not biodegradable and which accumulates in the environment.

Detailed Description Text (79):

The particulate absorbent as well as the specific mixtures with CMC and /or with xanthane and guar gums according to the invention which do not irritate nor generate allergy in more than 2% of cases (in fact 100% in the present case) can be classified as hypoallergen as established by the result of a Consumer Product Testing.

Detailed Description Text (106):

Moreover, the particulate absorbent as well as specific mixtures with CMC and /or with xanthane and guar gums does not abrade the matrix in which they are incorporated for their absorbing properties. Therefore the corresponding diaper would not degrade by handling or transportation. Neither will mechanical degradation of the diaper, generated by the granules of absorbent, will occur during manufacturing.

## CLAIMS:

17. Absorbing composition comprising: 79 to 92% by weight of a particulate absorbent for liquids according to claim 1; 4 to 10.5% by weight of a xanthane gum; and 4 to 10.5% by weight of a guar gum.

18. Absorbing composition according to claim 17 wherein: the xanthane gum has a viscosity, ranging from 1400 to 1650 cps at a concentration of 1% in water with 1% of KCl and a viscosity ranging from 130 to 180 cps, at 0.2% in water with 1% of KCl, the viscosity being measured by preparing a 1% salt solution of a product by slowly adding a dry blend of 3.0 g product and 3.0 grams potassium chloride to 250 ml of distilled water in a 400 ml beaker, while stirring at 800 rpm using a low-pitched propeller type stirrer, by adding an additional 44 ml of distilled water, rinsing the walls of the beaker and continue stirring at 800 rpm for two hours and, at the end of the period, by adjusting the temperature of the solution to 25.degree. C., by vigorously stirring by hand in a vertical motion to eliminate any thixotropic effects or layering, and immediately measuring the viscosity by using a LV model of the Brookfield viscometer at 60 rpm with No. 3 spindle; and the guar gum has a viscosity after 24 hours of at least 3500 cps, after 30 minutes of 2800 cps, the viscosity being measured by preparing a 1% salt solution of a product by slowly adding a dry blend of 3.0 g product and 3.0 grams potassium chloride to 250 ml of distilled water in a 400 ml beaker, while stirring at 800 rpm using a low-pitched propeller type stirrer, by adding an additional 44 ml of distilled water, rinsing the walls of the beaker and continue stirring at 800 rpm for two hours and,

at the end of the period, by adjusting the temperature of the solution to 25.degree. C., by vigorously stirring by hand in a vertical motion to eliminate any thixotropic effects or layering, and immediately measuring the viscosity by using a LV model of the Brookfield viscometer at 60 rpm with No. 3 spindle.

19. Absorbent combination comprising a member selected from the group consisting of a) a particulate absorbent as defined in claim 1 b) an absorbing composition comprising: 77 to 83% by weight of a particulate absorbent for liquids according to claim 1; 15 to 17% by weight of an insoluble carboxymethylcellulose; and 2 to 6% by weight of a high viscosity carboxymethylcellulose c) absorbing composition comprising: 79 to 92% by weight of a particulate absorbent for liquids according to claim 1; 4 to 10.5% by weight of a xanthane gum; and 4 to 10.5% by weight of a guar gum and d) mixtures thereof, with a carrier.

22. Breast pad, food pad, personal pad, bed pad, adult incontinence product, disposable diaper, non disposable diaper, brief, feminine hygiene product or bandage incorporating a substantial amount of an absorbent composition selected from the group consisting of a) an absorbing composition comprising: 77 to 83% by weight of a particulate absorbent for liquids according to claim 1; 15 to 17% by weight of an insoluble carboxymethylcellulose; and 2 to 6% by weight of a high viscosity carboxymethylcellulose b) absorbing composition comprising: 79 to 92% by weight of a particulate absorbent for liquids according to claim 1; 4 to 10.5% by weight of a xanthane gum; and 4 to 10.5% by weight of a guar gum and d) mixtures thereof.

23. Breast pad, food pad, personal pad, bed pad, adult incontinence product, disposable diaper, non disposable diaper, brief, feminine hygiene product or bandage incorporating a substantial amount of a particulate absorbent for liquids as defined in claim 1 and of a substantial amount of an absorbent composition selected from the group consisting of a) an absorbing composition comprising: 77 to 83% by weight of a particulate absorbent for liquids according to claim 1; 15 to 17% by weight of an insoluble carboxymethylcellulose; and 2 to 6% by weight of a high viscosity carboxymethylcellulose b) absorbing composition comprising: 79 to 92% by weight of a particulate absorbent for liquids according to claim 1; 4 to 10.5% by weight of a xanthane gum; and 4 to 10.5% by weight of a guar gum and d) mixtures thereof.

24. Diaper consisting of: a first external layer permeable to physiological fluids; a central matrix essentially made of an absorbing material; and a second external layer impermeable to physiological fluids and to aggregates formed by said physiological fluids with the absorbing material present in the central matrix which is entrapped between both external layers, characterized in that the absorbing material in the central matrix consists of 2 to 27% (in weight by total weight of the absorbing material present in the matrix) of an absorbent which is selected from the group consisting of a) particulate absorbents for the absorption of liquids, comprising particles selected from the group consisting of particles of glass-like polysaccharides and of particles of glass-like polysaccharides occluding, in their internal structure, at least one surfactant, said particles: having a size up to 620 .mu.m; being at least 70% by weight of a glass-like type structure; and being for: 30 to 45% by weight of a size comprised between 620 and 420 .mu.m; 35 to 55% by weight of a size comprised between 420 and 210 .mu.m; and 5 to 25% by weight of a size up to 210 .mu.m; b) absorbing compositions comprising: 77 to 83% by weight of a particulate absorbent for liquids as defined in the above paragraph a); 15 to 17% by weight of an insoluble carboxymethylcellulose; and 2 to 6% by weight of a high viscosity carboxymethylcellulose; c) absorbing compositions comprising: 79 to 92% by weight of a particulate absorbent for liquids as defined in the above paragraph a); 4 to 10.5% by weight of a xanthane gum; and 4 to 10.5% by weight of a guar gum; and d) mixtures of at least one particulate absorbent as defined in paragraph a) with at least one absorbing composition as defined in paragraph b) and/or c), the remaining part of the absorbing material in said

central matrix being selected from the group consisting of natural fibres, semi-synthetic fibres, synthetic fibres, wood pulp, cellulose fibres, cotton, peat-moss and mixture thereof.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn De
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Term	Documents
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<input type="checkbox"/>	L3	type near aggregation	187
<input type="checkbox"/>	L4	L3 and shear	28
<input type="checkbox"/>	L5	l3 and viscometer	3
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<input type="checkbox"/>	L7	xanthane and glue	31
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☐ 1. Document ID: US 6881363 B2

L10: Entry 1 of 15

File: USPT

Apr 19, 2005

DOCUMENT-IDENTIFIER: US 6881363 B2

TITLE: High throughput preparation and analysis of materials

CLAIMS:

22. The method of claim 1 wherein step (e) employs a techniques selected from beam radiation analysis, x-ray diffraction, high-throughput x-ray scattering, scattering from experimental systems, viscometry, failure or strength testing, adhesion testing, birefrigerance, rheo-optics, electron radiation, neutron radiation, synchotron radiation, infrared techniques, thermal analysis techniques, chromatographic techniques, resonance, spectroscopy, light scatter, spectrometry, microscopy, nuclear magnetic resonance, optical measurements, electrochemical measurements or a combination thereof.

39. The method of claim 23 wherein step (e) employs a techniques selected from beam radiation analysis, x-ray diffraction, high-throughput x-ray scattering, scattering from experimental systems, viscometry, failure or strength testing, adhesion testing, birefrigerance, rheo-optics, electron radiation, neutron radiation, synchotron radiation, infrared techniques, thermal analysis techniques, chromatographic techniques, resonance, spectroscopy, light scatter, spectrometry, microscopy, nuclear magnetic resonance, optical measurements, electrochemical measurements or a combination thereof.

48. A method for high throughput preparation and screening of materials, comprising the steps of: (a) providing a polymer blend; (b) forming a miniature material sample of said blend to a desired sample shape; (c) characterizing said sample as to morphology, size, composition, property or a combination thereof said characterizing step including a step of adhesion testing; (d) repeating said steps (a)-(c) for forming and characterizing a plurality of material samples of a library of material samples; (e) correlating the results of said steps (a)-(d) with known information about each said blend; and (f) preparing at least one additional sample based upon information obtained from steps (a)-(e).

50. The method of claim 48 wherein step (c) further employs a techniques selected from beam radiation analysis, x-ray diffraction, high-throughput x-ray scattering, scattering from experimental systems, viscometry, failure or strength testing, birefrigerance, rheo-optics, electron radiation, neutron radiation, synchotron radiation, infrared techniques, thermal analysis techniques, chromatographic techniques, resonance, spectroscopy, light scatter, spectrometry, microscopy, nuclear magnetic resonance, optical measurements, electrochemical measurements or a combination thereof.

54. The method of claim 53 wherein said polymer blend includes an acrylic, said

blend is dispensed, in a liquid state using an automated dispenser, onto a flexible substrate resulting in a material sample smaller than about 0.1 kg, and wherein said characterizing of said blend further comprises adhesion testing.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn De
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☐ 2. Document ID: US 6358597 B1

L10: Entry 2 of 15

File: USPT

Mar 19, 2002

DOCUMENT-IDENTIFIER: US 6358597 B1

TITLE: Thermo-transfer ribbon

CLAIMS:

5. Thermo-transfer ribbon according to claim 1, characterized in that the thermo-transfer color of layer B) has a viscosity of approximately 50 to 150 mPaos, measured with a rotation viscometer at 100.degree. C.

8. Thermo-transfer ribbon according to claim 7, characterized in that for purposes of increased adhesion between separation layer A) and layer B), the ethylene-vinylacetate-co-polymer has a vinyl-acetate contents of approximately 16 to 42.

10. Thermo-transfer ribbon according to claim 8, characterized in that the ethylene-vinylacetate-co-polymer has a vinyl-acetate contents from approximately 3 to 17 by weight for low adhesion adjustment between the separation layer A) and layer B).

20. Thermo-transfer ribbon according to claim 1, characterized in that on layer B) there is arranged an adhesion layer, specifically a paraffin layer, with a contents of finely distributed, tackifying hydrocarbon resin, whereby the paraffin has a melting point of specifically approximately 60 to 95.degree. C.

24. Thermo-transfer ribbon according to claim 1, characterized in that the thermo-transfer color of layer B) has a viscosity of approximately 70 to 120 mPaos, measured with a rotation viscometer at 100.degree. C.

25. Thermo-transfer ribbon according to claim 7, characterized in that for purposes of increased adhesion between separation layer A) and layer B), the ethylene-vinylacetate-co-polymer has a vinyl-acetate contents of approximately 18 to 40% by weight.

27. Thermo-transfer ribbon according to claim 8, characterized in that the ethylene-vinylacetate-co-polymer has a vinyl-acetate contents from approximately 6 to 12% by weight for low adhesion adjustment between the separation layer A) and layer B).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn De
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3. Document ID: US 6350344 B1

L10: Entry 3 of 15

File: USPT

Feb 26, 2002

DOCUMENT-IDENTIFIER: US 6350344 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Solventless primers which are hardenable by radiation

CLAIMS:

1. A method for improving adhesion between a substrate and a coating layer comprising:

(a) forming a layer of a solvent free radiation curable primer composition on the substrate wherein the solvent free radiation-curable primer composition comprises at least one composition selected from the group consisting of cationically curable compositions and free-radically curable compositions wherein said radiation-curable primer composition comprises at least two substances selected from the group consisting of aliphatic epoxides, aromatic epoxides, polyols, monools, mono(meth) acrylic functional compounds, poly(meth) acrylic functional compounds, vinyl pyrrolidone and divinyl imidazole, wherein the radiation curable primer composition comprises one or more compounds having olefinically unsaturated double bonds, and a photoinitiator selected from the group consisting of cationic photoinitiators, free radical photoinitiators and mixtures thereof; and a free-radical initiator selected from the group consisting of hydroperoxides, peroxides and azo compounds, wherein the at least two substances can comprise different substances from the same member;

(b) applying radiation to cure the primer composition and provide a substrate with a cured primer coated surface; and

(c) applying a layer of a coating to the cured primer surface.

2. The method of claim 1 wherein the radiation curable primer composition has a viscosity of less than 5000 mPa.multidot.s, measured using a Brookfield RVTD-II viscometer, at a processing temperature of less than 150.degree. C.

8. The method of claim 1 wherein the radiation-curable primer composition comprises at least one canonically curable composition comprised of one or more photoinitiators and one or more substances selected from the group consisting of cycloaliphatic epoxides and vinyl ethers; and wherein the radiation-curable primer composition has a viscosity of less than 5000 mPa.multidot.s, measured using a Brookfield RVTD-II viscometer, at a processing temperature of less than 150.degree. C.

16. The method of claim 8 for improving adhesion between layers of a laminate comprised of a first plastic film, a second plastic film, and an adhesive layer between the first plastic film and the second plastic film wherein the adhesive layer comprises a polyvinylidene chloride dispersion or a hot melt adhesive, wherein the radiation-curable primer composition forms a primer layer between at least one of the first plastic film and the second plastic film and the adhesive layer.

18. The method of claim 8 for improving adhesion of a coating to a substrate selected from the group consisting of metal foils and plastic films comprising: applying the radiation-curable primer composition to said substrate to form a

primer layer, curing said primer layer using a means selected from the group consisting of ultra violet radiation and electron beam radiation to form a cured primer layer, and applying said coating to said cured primer layer.

27. A method of improving adhesion between layers of a laminate comprised of a first substrate film, a second substrate film and an adhesive coating layer selected from the group consisting of hot melt adhesives and polyvinylidene dispersions between the first and second substrate films, said method comprising the process of claim 1 to form a primer layer between at least one of the first substrate film or the second substrate film and the adhesive coating layer.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 4. Document ID: US 6025016 A

L10: Entry 4 of 15

File: USPT

Feb 15, 2000

DOCUMENT-IDENTIFIER: US 6025016 A

TITLE: Binder layers which can be driven over and process for the preparation thereof

CLAIMS:

3. Process according to claim 1, wherein the aqueous protective layer exhibits a viscosity of 5 to 1200 mPa.s, as measured in a Brookfield rotary viscometer rotating at 60 revolutions per minute.

11. Process according to claim 1, wherein the aqueous protective layer additionally comprises one or more adhesion agents and/or one or more acidic or basic breaking agents and/or one or more water-soluble salts.

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 5. Document ID: US 5891520 A

L10: Entry 5 of 15

File: USPT

Apr 6, 1999

DOCUMENT-IDENTIFIER: US 5891520 A

TITLE: Method for screen printing glass articles

CLAIMS:

1. A method for decorating a glass article, said method comprising the steps of:

(a) treating the glass article with a silane adhesion promoter;

(b) screen printing a screen ink directly onto the silane-treated glass article, said screen ink being a heat-set ink comprising an organic resinous binder, a non-heavy metal colorant and an organic solvent system; and

(c) heating the screen-printed, silane-treated glass article to a temperature of about 400.degree. F. whereby the organic solvent system is evaporated therefrom and the organic resinous binder and the non-heavy metal colorant become set thereon.

12. The method as claimed in claim 1 wherein said screen ink comprises 21.0%, by weight, of an isobutyl methacrylate resin having an inherent viscosity of 0.64 as measured in a solution containing 0.25 g of polymer in 50 ml methylene chloride, measured at 20.degree. C. using a No. 50 Cannon-Fenske Viscometer; 7.0%, by weight, of phthalocyanine; 36.0%, by weight, of toluene; 33.0%, by weight, of methyl ethyl ketone; and 3.0%, by weight, of a synthetic amorphous silica.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence?	Attachments?	Claims	KWIC	Draw. De
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☐ 6. Document ID: US 5637387 A

L10: Entry 6 of 15

File: USPT

Jun 10, 1997

DOCUMENT-IDENTIFIER: US 5637387 A

TITLE: Storage-stable advanced polymaleimide compositions

CLAIMS:

1. A storage-stable prepolymer polymaleimide composition comprising:

A) the prepolymer polymaleimide reaction product resulting from the advancement reaction of

(a) a polyimide containing at least two radicals of the formula ##STR11## wherein D is a divalent radical containing a C.dbd.C bond, and (b) from about 0.05 to 2.0 moles per mole of component (a) of an alkenyl phenol, an alkenyl phenol ether or mixtures thereof,

in the presence of from about 0.01-0.11 moles, based on one mole of for each two imide moieties of component (a), of a basic catalyst selected from the group consisting of a primary, secondary or tertiary amine, a mixed secondary/tertiary amine, a heterocyclic base and a quaternary ammonium compound, said reaction product having a resin melt viscosity of from about 20 to 85 poise as measured on an ICI Cone & Plate Viscometer at 125.degree. C., from which product the catalyst is removed and wherein said reaction takes place in the absence of a polymerization inhibitor; and

B) an effective storage-stabilizing amount of phenothiazine, a phenothiazine derivative or hydroquinone added to component (A) after prepolymer advancement.

17. A process for preparing a storage-stable prepolymer polymaleimide composition comprising the steps of:

A) obtaining the prepolymer polymaleimide reaction product resulting from the

prepolymer advancement reaction of

(a) polyimide containing at least two radicals of the formula ##STR18## wherein D is a divalent radical containing a C.dbd.C bond, and (b) from about 0.05 to 2.0 moles per mole of component (a) of an alkenyl phenol, an alkenyl phenol ether or mixtures thereof,

in the presence of from about 0.01-0.11 moles, based on one mole of for each two imide moieties of component (a), of a basic catalyst selected from the group consisting of a primary, secondary or tertiary amine, a mixed secondary/tertiary amine, a heterocyclic base and a quaternary ammonium compound, said reaction product having a resin melt viscosity of from about 20 to 85 poise as measured on an ICI Cone & Plate Viscometer at 125.degree. C., from which product the catalyst is removed and wherein said reaction takes place in the absence of a polymerization inhibitor; and

B) adding an effective storage-stabilizing mount of phenothiazine, a phenothiazine derivative or hydroquinone to component (A) after prepolymer advancement.

23. The process of claim 20 further comprising the steps of

C) impregnating a glass fiber containing an appropriate adhesion promoter with said storage-stable prepolymer polymaleimide composition; and

D) heating said impregnated glass fiber to about 150.degree. to about 170.degree. C. to move the solvent therefrom and to advance the prepolymer polymaleimide to the desired prepreg.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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## ☐ 7. Document ID: US 5411768 A

L10: Entry 7 of 15

File: USPT

May 2, 1995

DOCUMENT-IDENTIFIER: US 5411768 A

TITLE: Thermoplastic/thermoset table coatings or inks for glass ceramic and other hard surfaces

### CLAIMS:

1. A method for the application of a coating or ink to glass, ceramic or other hard surface which comprises

(1) heating a composition which comprises

(a) a blend of epoxy resins selected from the group consisting of bisphenol A epoxy resin, bisphenol F epoxy resin, epoxy cresyl novolac resin and epoxy phenol novolac resin, the said epoxy resins having an epoxide equivalent weight of 150 to 2000 and the blend having a viscosity, determined by Brookfield HBT Viscometer at 200.degree. F. 5 RPM, in the range of 500 to 15,000 cps,

(b) a dicyandiamide curing agent for said epoxy blend which provides a latency period of about 30 minutes at a screening temperature of about 120.degree.-

270.degree. F.,

(c) an adhesion promoter in an amount up to about 5% by weight of the composition,

(d) a wetting agent in an amount up to about 5% by weight of the composition, and

(e) a rheological modifier in an amount up to about 10% by weight of the composition, the melting or softening point of said composition being in the range of about 10.degree. C. to about 120.degree. C.

to the melting or softening point of the composition,

(2) applying said melted or softened composition through a heated metal screen to a glass, ceramic or other hard surface, removing said metal screen, and

(3) heating the resultant coating on the said surface to the curing temperature of the composition and maintaining at said temperature until curing is complete.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 8. Document ID: US 5382612 A

L10: Entry 8 of 15

File: USPT

Jan 17, 1995

DOCUMENT-IDENTIFIER: US 5382612 A

TITLE: Process for preparing in aqueous emulsion a bitumen/polymer binder with continuous three-dimensional polymeric structure and application of this binder to the production of facings or bituminous mixes

CLAIMS:

12. The process according to claim 11, wherein the copolymer of styrene and a conjugated diene has an average viscometric molecular mass of between 10,000 and 600,000.

27. The process according to claim 1 wherein, in addition to the emulsifying system and optionally, a pH regulating agent, the aqueous phase contains salts, adhesion promoters and thickening agents.

28. The process according to claim 1 wherein the bitumen/polymer component contains at least one adhesion promoter for the bitumen/polymer binder.

31. The process according to claim 12, wherein the average viscometric molecular mass is between 30,000 and 400,000.

39. The process of claim 28 wherein the adhesion promotor comprises at least one nitrogen containing composition.

41. The process of claim 28 wherein the adhesion promoter is grafted onto the bitumen/polymer component.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 9. Document ID: US 5346933 A

L10: Entry 9 of 15

File: USPT

Sep 13, 1994

DOCUMENT-IDENTIFIER: US 5346933 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Thermoplastic/thermosettable coatings or inks for glass, ceramic and other hard surfaces

CLAIMS:

1. A thermoplastic/thermosettable coating or ink composition for glass, ceramic or other hard surface which comprises

(a) a blend of epoxy resins selected from the group consisting of bisphenol A epoxy resin, bisphenol F epoxy resin, epoxy cresyl novolac resin and epoxy phenol novolac resin, the said epoxy resins having an epoxide equivalent weight of 150 to 2000 and the blend having a viscosity, determined by Brookfield HBT Viscometer at 200.degree. F. 5 RPM, in the range of 500 to 15,000 cps,

(b) a dicyandiamide curing agent for said epoxy blend which provides a latency period of about 30 minutes at a screening temperature of about 120.degree.-270.degree. F.,

(c) an adhesion promoter in an amount up to about 5% by weight of the composition,

(d) a wetting agent in an amount up to about 5% by weight of the composition, and

(e) a rheological modifier in an amount up to about 10% by weight of the composition, the melting or softening point of said composition being in the range of about 10.degree. C. to about 120.degree. C.

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 10. Document ID: US 5346651 A

L10: Entry 10 of 15

File: USPT

Sep 13, 1994

DOCUMENT-IDENTIFIER: US 5346651 A

TITLE: Silver containing conductive coatings

CLAIMS:

2. A composition according to claim 1 further comprising at least one member of the group consisting of

(1) from about 0.3% to about 12% by weight of a staining agent, and

(2) from 0.1% to about 6% by weight of at least one inorganic modifier to improve viscosity stability, coating rheology and applicational properties, color stability during firing, solder adhesion strength, electrical continuity, abrasion and mar resistance, opacity or to limit post oxidation of the final coating.

9. A composition according to claim 1 having a viscosity in the range of from about 10,000 to about 80,000 centipoises at 20.degree. C. as determined on a Brookfield RVT model viscometer #7 spindle at 20 rpm.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 11. Document ID: US 5240981 A

L10: Entry 11 of 15

File: USPT

Aug 31, 1993

DOCUMENT-IDENTIFIER: US 5240981 A

TITLE: Flame retardant polyimide system

CLAIMS:

18. A process for preparing a prepreg containing imide groups comprising reacting at an elevated temperature

(a) a polyimide containing at least two radicals of the formula ##STR19## wherein D is a divalent radical containing a C.dbd.C bond, (b) from about 0.05 to 2.0 moles per mole of component (a) of an alkenyl phenol, an alkenyl phenol ether or mixtures thereof, and

(c) tribromophenyl-maleimide; in the presence of an ionic or free-radical polymerization catalyst for a period of time sufficient to provide said reaction product with a resin melt viscosity of from about 20 to 85 poise as measured on an ICI Cone & Plate Viscometer at 125.degree. C.; adding a phenothiazine or a derivative thereof in sufficient solvent to provide a solid content of between about 40 to about 60%; a glass fiber with an appropriate adhesion promoter is then impregnated with the resin solution; and the glass fiber is then heated at about 150.degree.-170.degree. C. to remove the solvent and form a prepreg.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 12. Document ID: US 5146531 A

L10: Entry 12 of 15

File: USPT

Sep 8, 1992

DOCUMENT-IDENTIFIER: US 5146531 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Ultraviolet radiation-curable coatings for optical fibers and optical fibers coated therewith

CLAIMS:

1. A radiation-curable primary coating for an optical fiber comprising

(A) from about 20 percent to about 80 percent by weight of an acrylated urethane oligomer which is the reaction product of (i) a hydrocarbon polyol, the hydrocarbon portion of which is from about 600 to 4,000 molecular weight; (ii) an aliphatic polyisocyanate; and (iii) an encapping monomer selected from the group consisting of hydroxyalkylacrylate and hydroxyalkylmethacrylate;

(B) from about 5 percent to about 50 percent by weight of an alkyl acrylate or methacrylate monomer having between 6 and 18 carbon atoms in the alkyl moiety;

(C) from about 5 percent to about 60 percent by weight of a monomer or oligomer having (1) an aromatic moiety, (2) moiety containing acrylic or methacrylic unsaturation, and (3) a hydrocarbon moiety, which monomer or oligomer is capable of increasing the refractive index of the composition relative to that of a composition containing only (A), (B), (D) and (E);

(D) from about 0.1 percent to about 3.0 percent by weight of an organofunctional silane adhesion promoter; and

(E) from about 1.0 percent to about 10 percent by weight of a photoinitiator,

wherein all of the stated percentages are percentages by weight based on total weight of (A), (B), (C), (D) and (E).

10. A radiation-curable primary coating according to claim 1 wherein said silane adhesion promoter (D) is selected from the group consisting of amino-functional silanes; mercapto-functional silanes, methacrylate functional silanes; acrylamido-functional silanes; allyl-functional silanes; vinyl-functional silanes; acrylate-functional silanes; and mixtures thereof.

11. A radiation-curable primary coating according to claim 1 wherein said silane adhesion promoter (D) is selected from the group consisting of mercaptoalkyl trialkoxy silane; methacryloxyalkyl trialkoxy silane; aminoalkyl trialkoxy silane; and mixtures thereof.

12. A radiation-curable primary coating according to claim 1 wherein said silane adhesion promoter (D) is gamma-mercaptopropyl trimethoxy silane.

21. A radiation-curable coating according to claim 1, wherein said silane adhesion promoter (D) is methacryloxypropyl trimethoxy silane.

22. A radiation-curable coating according to claim 1, wherein said silane adhesion promoter (D) is an ethoxy-substituted vinyl-functional silane.

23. A radiation-curable primary coating for an optical fiber, comprising

(A) from about 45 percent to about 65 percent by weight of an aliphatic urethane acrylate oligomer having as a backbone a hydrogenated 1,2-polybutadiene polymer;

(B) from about 10 percent to about 20 percent by weight of lauryl acrylate;



(C) from about 15 percent to about 30 percent by weight of polypropylene glycol nonylphenyl ether acrylate;

(D) from about 0.3 percent to about 1.0 percent by weight of an ethoxy-substituted vinyl-functional silane adhesion promoter; and

(E) from about 2.0 percent to about 7.0 percent by weight of hydroxycyclohexylphenyl ketone photoinitiator,

wherein all of the stated percentages are percentages by weight, based upon total weight of (A), (B), (C), (D) and (E).

30. A coated optical fiber comprising an optical fiber, a primary coating layer and a secondary coating layer,

wherein said primary coating layer comprises

(A) from about 20 percent to about 80 percent by weight, based upon total weight of (A), (B), (C), (D) and (E), of an acrylated urethane oligomer which is the reaction product of (i) a hydrocarbon polyol, the hydrocarbon portion of which is from about 600 to 4,000 molecular weight; (ii) an aliphatic polyisocyanate; and (iii) an endcapping monomer selected from the group consisting of hydroxyalkylacrylate and hydroxyalkylmethacrylate;

(B) from about 5 percent to about 50 percent by weight, of an alkyl acrylate or methacrylate monomer having between 6 and 18 carbon atoms in the alkyl moiety;

(C) from about 5 percent to about 60 percent by weight of a monomer or oligomer having (1) an aromatic moiety, (2) a moiety containing available acrylic or methacrylic unsaturation, and (3) a hydrocarbon moiety, which monomer or oligomer is capable of increasing the refractive index of the composition relative to that of a composition containing only (A), (B), (D) and (E);

(D) from about 0.1 percent to about 3.0 percent by weight of an organofunctional silane adhesion promoter; and

(E) from about 1.0 percent to about 10 percent by weight of a photoinitiator,

wherein all of the stated percentages are percentages by weight based on total weight of (A), (B), (C), (D) and (E),

and said secondary coating layer comprises

(I) from about 20 percent to about 80 percent by weight of an aliphatic urethane acrylate oligomer based on a polyester;

(II) from about 20 percent to about 60 percent by weight of an acrylated or methacrylated compound selected from the group consisting of isobornyl acrylate; isobornyl methacrylate; C.sub.6 to C.sub.16 saturated hydrocarbon diol diacrylates; C.sub.6 to C.sub.16 saturated hydrocarbon diol dimethacrylates; and mixtures thereof; and

(III) from about 1 percent to about 10 percent by weight of a photoinitiator,

wherein all of the above percentages for said secondary coating are percentages by weight based on the total weight of (I), (II), and (III).

37. A process for preparing a coated optical fiber comprising

(i) applying to an optical fiber a primary coating layer comprising

(A) from about 20 percent to about 80 percent by weight of an acrylated urethane oligomer which is the reaction product of (i) a hydrocarbon polyol, the hydrocarbon portion of which is from about 600 to 4,000 molecular weight; (ii) an aliphatic polyisocyanate; and (iii) an endcapping monomer selected from the group consisting of hydroxyalkylacrylate and hydroxyalkylmethacrylate;

(B) from about 5 percent to about 50 percent by weight of an alkyl acrylate or methacrylate monomer having between 6 and 18 carbon atoms in the alkyl moiety;

(C) from about 5 percent to about 60 percent by weight of a monomer or oligomer having (1) an aromatic moiety, (2) a moiety containing acrylic or methacrylic unsaturation, and (3) a hydrocarbon moiety, which monomer or oligomer is capable of increasing the refractive index of the composition relative to that of a composition containing only (A), (B), (D) and (E);

(D) from about 0.1 percent to about 3.0 percent by weight of an organofunctional silane adhesion promoter; and

(E) from about 1.0 percent to about 10 percent by weight of a photoinitiator; and

(ii) applying atop said primary coating layer a secondary coating layer comprising

(I) from about 20 percent to about 80 percent by weight, based upon total weight of (I), (II) and (III), of an aliphatic urethane acrylate oligomer based on a polyester;

(II) from about 20 percent to about 60 percent by weight, based upon total weight of (I), (II) and (III), of an acrylated or methacrylated compound selected from the group consisting of isobornyl acrylate; isobornyl methacrylate; C.sub.6 to C.sub.16 saturated hydrocarbon diol diacrylates; C.sub.6 to C.sub.16 saturated hydrocarbon diol dimethacrylates; and mixtures thereof; and

(III) from about 1 percent to about 10 percent by weight, based upon total weight of (I), (II) and (III), of a photoinitiator.

39. A radiation-curable coating for the surface of an optically useful article comprising

(A) from about 20 percent to about 80 percent by weight of an acrylated urethane oligomer which is the reaction product of (i) a hydrocarbon polyol, the hydrocarbon portion of which is from about 600 to 4,000 molecular weight; (ii) an aliphatic polyisocyanate; and (iii) an endcapping monomer selected from the group consisting of hydroxyalkylacrylate and hydroxyalkylmethacrylate;

(B) from about 5 percent to about 50 percent by weight of an alkyl acrylate or methacrylate monomer having between 6 and 18 carbons in the alkyl moiety;

(C) an effective amount not in excess of about 60 percent of a monomer or oligomer containing acrylic or methacrylic unsaturation, that is capable of adjusting the refractive index of the composition relative to that of a composition containing only (A), (B), (D) and (E);

(D) a small but effective amount of an organofunctional silane adhesion promoter; and

(E) a small but effective amount of a photoinitiator,

wherein all of the stated percentages are percentages by weight based on total weight of (A), (B), (C), (D) and (E).

48. A radiation-curable coating comprising

(A) from about 20 percent to about 80 percent by weight of an acrylated urethane oligomer which is the reaction product of (i) a hydrocarbon polyol, the hydrocarbon portion of which is from about 600 to 4,000 molecular weight; (ii) an aliphatic polyisocyanate; and (iii) an endcapping monomer selected from the group consisting of hydroxyalkylacrylate and hydroxyalkylmethacrylate;

(B) a low T<sub>g</sub>, soft curing, hydrocarbon monofunctional acrylate monomer;

(C) from about 5 percent to about 60 percent by weight of a monomer or oligomer which is capable of increasing the refractive index of the composition relative to that of a composition containing only (A), (B), (D) and (E);

(D) from about 0.1 percent to about 3.0 percent by weight of an organofunctional silane adhesion promoter;

(E) from about 1.0 percent to about 10 percent by weight of a photoinitiator;

(F) a chain transfer agent comprising a hydrocarbon chain having at least eight carbons in its hydrocarbon chain; and

(G) a stabilizer or antioxidant that imparts added shelf life and storage stability to the coating composition,

the combination of (B), (C), and (D) with (A) having the effect of producing a coating of mutually compatible ingredients that is radiation-curable and that has a lower T<sub>g</sub> and a lower Instron modulus, at 25.degree. C., than (A) alone, and that has improved storage stability as compared to a composition of (A), (B), and (C) alone.

52. A coating composition of claim 51 that can be used as a primary or buffer coating for an optical fiber and that has an uncured liquid viscosity at 25.degree. C. in the range from about 4,000 cps to about 10,500 cps, as measured on a Brookfield viscometer, model LVT, at 6 rpm, using a number 34 spindle at 25.degree. C.

59. A coating composition of claim 58 further comprising

(f) an amount of organofunctional silane adhesion promoter that is effective to promote adhesion of the composition to the surface of an optical fiber.

63. A coating composition of claim 60 that has an uncured liquid viscosity at 25.degree. C. in the range from about 4,000 cps to about 10,500 cps, as measured at 25.degree. C. using a Brookfield Viscometer, Model LVT, at 6 rpm, using a number 34 spindle.

65. A composition of claim 56 further comprising an amount of an organofunctional silane adhesion promoter effective to enhance the adhesion of said composition to the surface of an inorganic substrate of glass, marble, granite, or like vitreous or inorganic surface, or to the surface of an optical fiber.

67. A radiation-curable primary coating for an optical fiber, comprising

(A) from about 45 percent to about 65 percent by weight of an aliphatic urethane acrylate oligomer having as a backbone a hydrogenated 1,2-polybutadiene polymer;

(B) from about 10 percent to about 20 percent by weight of lauryl acrylate;

(C) from about 15 percent to about 30 percent by weight of polypropylene glycol nonylphenyl ether acrylate;

(D) from about 0.3 percent to about 1.0 percent by weight of methacryloxypropyl trimethoxy silane adhesion promoter; and

(E) from about 2.0 percent to about 7.0 percent by weight of hydroxycyclohexylphenyl ketone photoinitiator,

wherein all of the stated percentages are percentages by weight, based upon total weight of (A), (B), (C), (D) and (E).

74. A radiation-curable primary coating for an optical fiber, comprising

(A) from about 45 percent to about 65 percent by weight of an aliphatic urethane acrylate oligomer having as a backbone a hydrogenated 1,2-polybutadiene polymer;

(B) from about 10 percent to about 20 percent by weight of lauryl acrylate;

(C) from about 15 percent to about 30 percent by weight of polypropylene glycol nonylphenyl ether acrylate;

(D) from about 0.3 percent to about 1.0 percent by weight of gamma mercaptopropyl trimethoxy silane adhesion promoter; and

(E) from about 2.0 percent to about 7.0 percent by weight of hydroxycyclohexylphenyl ketone photoinitiator,

wherein all of the stated percentages are percentages by weight, based upon total weight of (A), (B), (C), (D) and (E).

82. A process for preparing a radiation-curable primary coating for an optical fiber comprising formulating a composition comprising

(A) from about 20 percent to about 80 percent by weight of an acrylated urethane oligomer which is the reaction product of (i) a hydrocarbon polyol, the hydrocarbon portion of which is from 600 to 4,000 molecular weight; (ii) an aliphatic polyisocyanate; and (iii) an endcapping monomer selected from the group consisting of hydroxyalkylacrylate and hydroxyalkylmethacrylate;

(B) from about 5 percent to about 50 percent by weight of an alkyl acrylate or methacrylate monomer having between 6 and 18 carbon atoms in the alkyl moiety;

(C) from about 5 percent to about 60 percent by weight of a monomer or oligomer having (1) an aromatic moiety, (2) a moiety containing acrylic or methacrylic unsaturation, and (3) a hydrocarbon moiety, which monomer or oligomer is capable of increasing the refractive index of the composition relative to that of a composition containing only (A), (B), (D) and (E);

(D) from about 0.1 percent to about 3.0 percent by weight of an organofunctional silane adhesion promoter; and

(E) from about 1.0 percent to about 10 percent by weight of a photoinitiator,

wherein all of the stated percentages are percentages by weight based on total weight of (A), (B), (C), (D) and (E).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 13. Document ID: US 5120777 A

L10: Entry 13 of 15

File: USPT

Jun 9, 1992

DOCUMENT-IDENTIFIER: US 5120777 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Bitumen/polymer composition exhibiting an adhesiveness which is retained on storage at elevated temperature and process for preparing such a composition

CLAIMS:

1. Process for the preparation of a bitumen/polymer composition exhibiting an adhesiveness which is retained on storage at elevated temperature, wherein a bitumen and, based on the weight of the bitumen, 0.5 to 15% of a polymer and 0.05 to 10% of an adhesion promoter consisting of one or more nitrogen compounds which have a molecular mass higher than 90 and are chosen from the group consisting of the derivatives of general formula R--Z--R.sub.1 and the corresponding amine salts, amine oxides and imidazoline salts, are brought into contact at a temperature of between about 100.degree. C. and about 230.degree. C. and with stirring for a period of at least 10 minutes in the presence of the said coupling agent supplying free elemental or radical sulfur, the said coupling agent being present in the mixture containing the bitumen, the polymer and the adhesion promoter in a quantity capable of supplying a quantity of free sulfur representing 0.1 to 10% of the overall weight of polymer and of adhesion promoter in the said mixture and wherein in the formula R--Z--R.sub.1, R denotes a C.sub.3 -C.sub.30 monovalent aliphatic hydrocarbon radical containing at least one unsaturated group, Z denotes a divalent group selected from the group consisting of: ##STR6## where n denotes an integer ranging from 2 to 6, m denotes zero or an integer ranging from 1 to 6, and p is equal to zero or 1, and each of R.sub.1, R.sub.2 and R.sub.3 which are identical or different, denotes a hydrogen atom, a radical chosen from the radicals R, a C.sub.1 -C.sub.18 alkyl, aminoalkyl or hydroxyalkyl radical or a --C.sub.q H.sub.2q O).sub.r H radical with q denoting a number equal to 2 or 3 and r denoting an integer ranging from 2 to 10.

3. Process according to claim 1, where in the general formula R--Z--R.sub.1 of the compounds forming the adhesion promoter, the radical R comprises a radical selected from the group consisting of an alkenyl, alkadienyl, alkatrienyl, alkatetraenyl and alkapentaenyl radical.

4. Process according to claim 1 or 4, wherein in the formula R--Z--R.sub.1 of the compounds forming the adhesion promoter the radical R is C.sub.8 -C.sub.20.

5. Process according to claim 1, wherein the compound(s) forming the adhesion promoter are derivatives corresponding to either of the formulae ##STR7## in which R.sub.4 denotes a C.sub.8 -C.sub.20 monovalent aliphatic hydrocarbon radical containing at least one unsaturated group of the >C.dbd.C< type, each of the symbols R.sub.5 and R.sub.6, which are identical or different, denotes a hydrogen atom or a C.sub.1 -C.sub.8 alkyl, aminoalkyl or hydroxyalkyl radical, p is equal to zero or 1, m denotes zero or an integer ranging from 1 to 6 and s is an integer ranging from 2 to 4.

9. Process according to claim 7 wherein in that the copolymer has an average viscometric molecular mass of between 30,000 and 300,000.

10. Process according to claim 1 wherein the polymer and the adhesion promoter are employed in quantities representing 0.7 to 10% and 0.1 to 5% of the weight of the bitumen respectively.

11. Process according to claim 1 wherein the reaction mixture resulting from bringing the bitumen, the polymer, the adhesion promoter and the coupling agent into contact also contains 1 to 30%, based on the weight of the bitumen, of a flux agent, the said flux agent being in particular a hydrocarbon oil exhibiting a distillation range at atmospheric pressure, determined according to ASTM standard D 86-67, of between 100.degree. C. and 450.degree. C.

14. Process according to claim 11 wherein the polymer, the coupling agent and optionally the adhesion promoter are incorporated into the bitumen in the form of a master solution of these products in the flux agent, the adhesion promoter, when it is not present in the master solution, being incorporated into the bitumen before, during or after incorporation of the master solution into the latter.

15. Process according to claim 14, wherein the corresponding quantities of polymer, of adhesion promoter and of coupling agent in the master solution represent respectively 5% to 40%, 0.5% to 25% and 0.01 to 10% of the weight of the flux agent.

16. Process according to claim 15, wherein the corresponding quantities of polymer, of adhesion promoter and of coupling agent in the master solution represent respectively 10 to 35%, 1 to 20% and 0.05 to 5% of the weight of the flux agent.

25. Bitumen/polymer composition exhibiting an adhesiveness which is retained on storage at elevated temperature, said composition containing a bitumen and, calculated on the weight of the bitumen, 0.5 to 15% of a polymer and 0.05 to 10% of an adhesion promoter consisting of one or more nitrogen compounds having a molecular mass higher than 90 and chosen from the group consisting of the derivatives of general formula  $R-Z-R_{sub.1}$  where R denotes a  $C_{sub.3}-C_{sub.30}$  monovalent aliphatic hydrocarbon radical containing at least one unsaturated group, Z denotes a divalent group selected from the group consisting of:  $STR11_n$  where n denotes an integer ranging from 2 to 6, m denotes zero or an integer ranging from 1 to 6, and p is equal to zero or 1, and each of  $R_{sub.1}$ ,  $R_{sub.2}$  and  $R_{sub.3}$ , which are identical or different, denotes a hydrogen atom, a radical chosen from the radicals R, a  $C_{sub.1}-C_{sub.18}$  alkyl, aminoalkyl or hydroxyalkyl radical or a radical  $-(C_{sub.q}H_{sub.2q}O)_{sub.r}-H$  radical with q denoting a number equal to 2 or 3 and r denoting an integer ranging from 2 to 10, and the corresponding salts and amine oxides, and wherein the nitrogen compound(s) constituting the adhesion promoter of the bitumen/polymer composition are grafted onto the polymer present in said composition.

26. Composition according to claim 25, wherein in formula  $R-Z-R_{sub.1}$  of the compounds forming the adhesion promoter, the radical R comprises a radical selected from the group consisting of an alkenyl, alkadienyl, alkatrienyl, alkatetraenyl and alkapentaenyl radical.

27. Composition according to claim 25 wherein in the formula  $R-Z-R_{sub.1}$  of the compounds forming the adhesion promoter, the radical R is  $C_{sub.8}-C_{sub.20}$ .

28. Composition according to claim 25, wherein the compound(s) forming the adhesion promoter are derivatives corresponding to either of the formulae  $STR12_s$  in which  $R_{sub.4}$  denotes a  $C_{sub.8}-C_{sub.20}$  monovalent aliphatic hydrocarbon radical containing one or more unsaturations of the type  $C_{dbd}C<$ , each of the symbols  $R_{sub.5}$  and  $R_{sub.6}$ , which are identical or different, denotes a hydrogen atom or a  $C_{sub.1}-C_{sub.8}$  alkyl, aminoalkyl or hydroxyalkyl radical, p is equal to zero or 1, m denotes zero or an integer ranging from 1 to 6, and s is an integer ranging from 2 to 4.

32. Composition according to claim 30, wherein the copolymer has an average viscometric molecular mass of between 30,000 and 300,000.

37. The process of claim 9 wherein the viscometric mass is between 70,000 and 200,000.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawings
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L10: Entry 14 of 15

File: USPT

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TITLE: Low friction high release coatings for release tapes

CLAIMS:

1. A release surface comprising a substrate supporting a cured release coating formed from a reactive silicone system comprising at least 15% by weight of the silicone system of a reactive polydialkyl siloxane, at least 40% by weight of the silicone system of a reactive silicone high adhesive agent, said silicone high adhesion agent comprising a copolymer of monofunctional silicone units of the formula:

$R'.sub.3 SiO.sub.1.78$

and tetrafunctional units of the formula:

$SiO.sub.4/2$

where  $R.sup.40$  is an alkyl or alkenyl group containing from 1 to about 6 carbon atoms dispersed in a reactive organic diluent and a silicone hydride crosslinking agent, cure occurring by hydrosilation reaction of the reactive silicone system, reactive diluent and silicone hydride crosslinking agent in the presence of Group VIII metal catalyst, said polydialkyl siloxane and silicone high adhesion agent being present in proportion to provide a cured release coating having a coefficient of friction of less than about 0.7 lb/2 inch and a release greater than about 50 g/in.

4. A release surface as claimed in claim 1 in which the reactive polydialkyl siloxane has a viscometric average molecular weight in excess of 300,000 cps.

5. A release surface as claimed in claim 3 in which the reactive polydimethyl siloxane has a viscometric average molecular weight of from about 300,000 to about 1,000,000 cps.

6. A release surface as claimed in claim 1 in which the reactive silicone high adhesion agent is present in an amount of from about 50 to about 75% by weight of the reactive silicone system.

7. A release surface as claimed in claim 2 in which the reactive silicone high

adhesion agent is present in an amount of from about 50 to about 75% by weight of the reactive silicone system.

8. A release surface as claimed in claim 3 in which the reactive silicone high adhesion agent is present in an amount of from about 50 to about 75% by weight of the reactive silicone system.

9. A release surface as claimed in claim 5 in which the reactive silicone high adhesion agent is present in an amount of from about 50 to about 75% by weight of the reactive silicone system.

10. A release surface comprising a substrate supporting a cured release coating formed from a reactive silicone system comprising from about 25 to about 50% by weight of the silicone system of an alkenyl reactive siloxane of the formula: ##STR3## wherein each R is independently an alkenyl containing from 2 to about 6 carbon atoms and m and n are independent integers; from about 75 to about 50% by weight of the silicone system of a reactive silicone high adhesion agent, said silicone high adhesion agent comprising a copolymer of monofunctional silicone units of the formula:

$R'.\text{sub.3 SiO}.\text{sub.1/2}$

and tetrafunctional units of the formula:

$\text{SiO}.\text{sub.4/2}$

where R' is an alkyl or alkenyl group containing from 1 to about 6 carbon atoms dispersed in a reactive organic diluent and a silicone hydride crosslinking agent, cure occurring by hydrosilation reaction of the reactive silicone system, reactive diluent and silicone hydride crosslinking agent in the presence of Group VIII metal catalyst, said polydialkyl siloxane and silicone high adhesion agent being present in proportion to provide a cured release coating having a coefficient of friction of less than about 0.7 lb/2 inch and a release greater than about 50 g/in.

12. A release surface as claimed in claim 10 in which the reactive polydialkyl siloxane has a viscometric average molecular weight in excess of 300,000 cps.

13. A release surface as claimed in claim 11 in which the reactive polydimethyl siloxane has a viscometric average molecular weight of from about 300,000 to about 1,000,000 cps.

14. In the combination of a tape face material having on one surface thereof a pressure sensitive adhesive and on the opposed surface thereof a cured release coating, the improvement which comprises providing as the cured release coating formed from a reactive silicone system comprising at least 15% by weight of the silicone system of a reactive polydialkyl siloxane, at least 40% by weight of the silicone system of a reactive silicone high adhesion agent, said silicone high adhesion agent comprising a copolymer of monofunctional silicone units of the formula:

$R'.\text{sub.3 RiO}.\text{sub.1/2}$

and tetrafunctional units of the formula:

$\text{SiO}.\text{sub.4/2}$

where R' is an alkyl or alkenyl group containing from 1 to about 6 carbon atoms dispersed in a reactive organic diluent and a silicone hydride crosslinking agent, cure occurring by hydrosilation reaction of the reactive silicone systems, reactive diluent and silicone hydride crosslinking agent in the presence of Group VIII metal



catalyst, said polydialkyl siloxane and silicone high adhesion agent being present in proportion to provide a cured release coating having a coefficient of friction of less than about 0.7 lb/2 inch and a release greater than about 50 g/in.

17. A release surface as claimed in claim 14 in which the reactive polydialkyl siloxane has a viscometric average molecular weight in excess of 300,000 cps.

18. A release surface as claimed in claim 14 in which the reactive polydimethyl siloxane has a viscometric average molecular weight of from about 300,000 to about 1,000,000 cps.

19. In a diaper tape construction consisting of the combination of a fastening tape and a release tape each comprising a polypropylene tape face material having on the opposed surface thereof a cured silicone release coating which comprises providing as the cured release coating a cured coating formed from a reactive silicone system comprising at least 15% by weight of the silicone system of a reactive polydialkyl siloxane, at least 40% by weight of the silicone system of a reactive silicone high adhesion agent, said silicone high adhesion agent comprising a copolymer of monofunctional silicone units of the formula:

R'.sub.3 SiO.sub.178

and tetrafunctional units of the formula:

SiO.sub.4/2

where R' is an alkyl or alkenyl group containing from 1 to about 6 carbon atoms dispersed in a reactive organic diluent and a silicone hydride crosslinking agent, cure occurring by hydrosilation reaction of the reactive silicone system, reactive diluent and silicone hydride crosslinking agent in the presence of Group VIII metal catalyst, said polydialkyl siloxane and silicone high adhesion agent being present in proportion to provide a cured release coating having a coefficient of friction of less than about 0.7 lb/2 inch and a release greater than about 50 g/in.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Drawings
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L10: Entry 15 of 15

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Mar 18, 1980

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TITLE: Water proofing compositions for cement mortar or concrete and method employing same

## CLAIMS:

2. A method of water-proofing cement mortar and concrete as claimed in claim 1, wherein said adhesive is a bonding material having a viscosity (Brookfield viscometer) at 25.degree. C. of 100-2,000 cps, which comprises 10-20% by weight of reclaimed butyl rubber, 5-15% by weight of a filler, 1-15% by weight of at least one of a thermoplastic synthetic resin and a low molecular weight polymer of isobutylene and a solvent.

3. A water-proofing roofing sheet to be used in contact with wet cement mortar or

wet concrete and having adhesion to the wet cement mortar or wet concrete without employing additional bonding materials and having a hardness of 30-70 (JIS hardness tester), which essentially consists of 65-40% by weight of reclaimed butyl rubber, 30-50% by weight of a filler, a softener and an antioxidant.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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PMID: 11572708 [PubMed - indexed for MEDLINE]

- ☐ **106:** Schembri MA, Christiansen G, Klemm P. Related Articles, Links



FimH-mediated autoaggregation of *Escherichia coli*.  
Mol Microbiol. 2001 Sep;41(6):1419-30.  
PMID: 11580845 [PubMed - indexed for MEDLINE]

- ☐ **107:** Sokurenko EV, Schembri MA, Trintchina E, Kjaergaard K, Hasty DL, Klemm P. Related Articles, Links



Valency conversion in the type 1 fimbrial adhesin of *Escherichia coli*.  
Mol Microbiol. 2001 Aug;41(3):675-86.  
PMID: 11532135 [PubMed - indexed for MEDLINE]

- ☐ **108:** Sung MA, Fleming K, Chen HA, Matthews S. Related Articles, Links



The solution structure of PapGII from uropathogenic *Escherichia coli* and its recognition of glycolipid receptors.  
EMBO Rep. 2001 Jul;2(7):621-7. Epub 2001 Jul 3.  
PMID: 11454740 [PubMed - indexed for MEDLINE]

- ☐ **109:** Harris SL, Spears PA, Havell EA, Hamrick TS, Horton JR, Orndorff PE. Related Articles, Links



Characterization of *Escherichia coli* type 1 pilus mutants with altered binding specificities.  
J Bacteriol. 2001 Jul;183(13):4099-102.  
PMID: 11395476 [PubMed - indexed for MEDLINE]

- ☐ **110:** Miron J, Ben-Ghedalia D, Morrison M. Related Articles, Links



Invited review: adhesion mechanisms of rumen cellulolytic bacteria.  
J Dairy Sci. 2001 Jun;84(6):1294-309. Review.  
PMID: 11417686 [PubMed - indexed for MEDLINE]

- ☐ **111:** Colombo AV, Hirata R Jr, de Souza CM, Monteiro-Leal LH, Previato JO, Formiga LC, Andrade AF, Mattos-Guaraldi AL. Related Articles, Links



*Corynebacterium diphtheriae* surface proteins as adhesins to human erythrocytes.  
FEMS Microbiol Lett. 2001 Apr 13;197(2):235-9.  
PMID: 11313140 [PubMed - indexed for MEDLINE]

- ☐ **112:** Schembri MA, Klemm P. Related Articles, Links



Biofilm formation in a hydrodynamic environment by novel fimH variants and ramifications for virulence.  
Infect Immun. 2001 Mar;69(3):1322-8.  
PMID: 11179294 [PubMed - indexed for MEDLINE]

- ☐ **113:** Schilling JD, Mulvey MA, Hultgren SJ. Related Articles, Links



Structure and function of *Escherichia coli* type 1 pili: new insight into the pathogenesis of urinary tract infections.  
J Infect Dis. 2001 Mar 1;183 Suppl 1:S36-40. Review. No abstract available.  
PMID: 11171011 [PubMed - indexed for MEDLINE]

- ☐ **114:** Schembri MA, Kjaergaard K, Sokurenko EV, Klemm P. Related Articles, Links



Molecular characterization of the *Escherichia coli* FimH adhesin.  
J Infect Dis. 2001 Mar 1;183 Suppl 1:S28-31. Review. No abstract available.  
PMID: 11171009 [PubMed - indexed for MEDLINE]

- ☐ **115:** Liang MN, Smith SP, Metallo SJ, Choi IS, Prentiss M, Whitesides GM. Related Articles, Links

Measuring the forces involved in polyvalent adhesion of uropathogenic *Escherichia*



coli to mannose-presenting surfaces.  
Proc Natl Acad Sci U S A. 2000 Nov 21;97(24):13092-6.  
PMID: 11078520 [PubMed - indexed for MEDLINE]

☐ **116:** Mulvey MA, Hultgren SJ.

Related Articles, Links



Cell biology. Bacterial spelunkers.  
Science. 2000 Aug 4;289(5480):732-3. No abstract available.  
PMID: 10950716 [PubMed - indexed for MEDLINE]

☐ **117:** Shin JS, Gao Z, Abraham SN.

Related Articles, Links



Involvement of cellular caveolae in bacterial entry into mast cells.  
Science. 2000 Aug 4;289(5480):785-8.  
PMID: 10926542 [PubMed - indexed for MEDLINE]

☐ **118:** Zubritsky E.

Related Articles, Links



Driven by shear force  
Anal Chem. 2000 Aug 1;72(15):518A. No abstract available.  
PMID: 10952509 [PubMed - as supplied by publisher]

☐ **119:** Schembri MA, Hasman H, Klemm P.

Related Articles, Links



Expression and purification of the mannose recognition domain of the FimH adhesin.  
FEMS Microbiol Lett. 2000 Jul 15;188(2):147-51.  
PMID: 10913698 [PubMed - indexed for MEDLINE]

☐ **120:** Hamrick TS, Harris SL, Spears PA, Havell EA, Horton JR, Russell PW, Orndorff PE.

Related Articles, Links



Genetic characterization of Escherichia coli type 1 pilus adhesin mutants and identification of a novel binding phenotype.  
J Bacteriol. 2000 Jul;182(14):4012-21.  
PMID: 10869080 [PubMed - indexed for MEDLINE]

☐ **121:** Baddiley J.

Related Articles, Links



Teichoic acids in bacterial coaggregation.  
Microbiology. 2000 Jun;146 ( Pt 6):1257-8. No abstract available.  
PMID: 10846204 [PubMed - indexed for MEDLINE]

☐ **122:** Schembri MA, Sokurenko EV, Klemm P.

Related Articles, Links



Functional flexibility of the FimH adhesin: insights from a random mutant library.  
Infect Immun. 2000 May;68(5):2638-46.  
PMID: 10768955 [PubMed - indexed for MEDLINE]

☐ **123:** Klemm P, Schembri MA.

Related Articles, Links



Bacterial adhesins: function and structure.  
Int J Med Microbiol. 2000 Mar;290(1):27-35. Review.  
PMID: 11043979 [PubMed - indexed for MEDLINE]

☐ **124:** Ofek I, Hasty DL, Abraham SN, Sharon N.

Related Articles, Links



Role of bacterial lectins in urinary tract infections. Molecular mechanisms for diversification of bacterial surface lectins.  
Adv Exp Med Biol. 2000;485:183-92. Review. No abstract available.  
PMID: 11109105 [PubMed - indexed for MEDLINE]

☐ **125:** Kjaergaard K, Sorensen JK, Schembri MA, Klemm P.

Related Articles, Links



Sequestration of zinc oxide by fimbrial designer chelators.  
Appl Environ Microbiol. 2000 Jan;66(1):10-4.  
PMID: 10618196 [PubMed - indexed for MEDLINE]

☐ **126:** [Choi BK, Schifferli DM.](#)

[Related Articles, Links](#)



Lysine residue 117 of the FasG adhesin of enterotoxigenic Escherichia coli is essential for binding of 987P fimbriae to sulfatide.  
Infect Immun. 1999 Nov;67(11):5755-61.  
PMID: 10531225 [PubMed - indexed for MEDLINE]

☐ **127:** [Shin JS, Gao Z, Abraham SN.](#)

[Related Articles, Links](#)



Bacteria-host cell interaction mediated by cellular cholesterol/glycolipid-enriched microdomains.  
Biosci Rep. 1999 Oct;19(5):421-32.  
PMID: 10763810 [PubMed - indexed for MEDLINE]

☐ **128:** [Malaviya R, Gao Z, Thankavel K, van der Merwe PA, Abraham SN.](#)

[Related Articles, Links](#)



The mast cell tumor necrosis factor alpha response to FimH-expressing Escherichia coli is mediated by the glycosylphosphatidylinositol-anchored molecule CD48.  
Proc Natl Acad Sci U S A. 1999 Jul 6;96(14):8110-5.  
PMID: 10393956 [PubMed - indexed for MEDLINE]

☐ **129:** [Wizemann TM, Adamou JE, Langermann S.](#)

[Related Articles, Links](#)



Adhesins as targets for vaccine development.  
Emerg Infect Dis. 1999 May-Jun;5(3):395-403. Review.  
PMID: 10341176 [PubMed - indexed for MEDLINE]

☐ **130:** [Chesnokova VL, Kravtsov EG, Sokurenko EV.](#)

[Related Articles, Links](#)



[Escherichia coli M17: analysis of the adhesive phenotype as a factor of the macroorganism colonization and/or pathogenicity]  
Biull Eksp Biol Med. 1999 Apr;127(4):424-8. Russian. No abstract available.  
PMID: 10367128 [PubMed - indexed for MEDLINE]

☐ **131:** [Pellecchia M, Sebbel P, Hermanns U, Wuthrich K, Glockshuber R.](#)

[Related Articles, Links](#)



Pilus chaperone FimC-adhesin FimH interactions mapped by TROSY-NMR.  
Nat Struct Biol. 1999 Apr;6(4):336-9.  
PMID: 10201401 [PubMed - indexed for MEDLINE]

☐ **132:** [Pouttu R, Puustinen T, Virkola R, Hacker J, Klemm P, Korhonen TK.](#)

[Related Articles, Links](#)



Amino acid residue Ala-62 in the FimH fimbrial adhesin is critical for the adhesiveness of meningitis-associated Escherichia coli to collagens.  
Mol Microbiol. 1999 Mar;31(6):1747-57.  
PMID: 10209747 [PubMed - indexed for MEDLINE]

☐ **133:** [Thankavel K, Shah AH, Cohen MS, Ikeda T, Lorenz RG, Curtiss R 3rd, Abraham SN.](#)

[Related Articles, Links](#)



Molecular basis for the enterocyte tropism exhibited by Salmonella typhimurium type 1 fimbriae.  
J Biol Chem. 1999 Feb 26;274(9):5797-809.  
PMID: 10026202 [PubMed - indexed for MEDLINE]

☐ **134:** [Long M, Goldsmith HL, Tees DF, Zhu C.](#)

[Related Articles, Links](#)



Probabilistic modeling of shear-induced formation and breakage of doublets cross-linked by receptor-ligand bonds.

Biophys J. 1999 Feb;76(2):1112-28.  
PMID: 9916043 [PubMed - indexed for MEDLINE]

☐ **135:** [Soto GE, Hultgren SJ.](#) Related Articles, Links



Bacterial adhesins: common themes and variations in architecture and assembly.  
J Bacteriol. 1999 Feb;181(4):1059-71. Review. No abstract available.  
PMID: 9973330 [PubMed - indexed for MEDLINE]

☐ **136:** [Sokurenko EV, Chesnokova V, Dykhuizen DE, Ofek I, Wu XR, Krogfelt KA, Struve C, Schembri MA, Hasty DL.](#) Related Articles, Links



Pathogenic adaptation of Escherichia coli by natural variation of the FimH adhesin.  
Proc Natl Acad Sci U S A. 1998 Jul 21;95(15):8922-6.  
PMID: 9671780 [PubMed - indexed for MEDLINE]

☐ **137:** [Knudsen TB, Klemm P.](#) Related Articles, Links



Probing the receptor recognition site of the FimH adhesin by fimbriae-displayed FimH-FocH hybrids.  
Microbiology. 1998 Jul;144 ( Pt 7):1919-29.  
PMID: 9695925 [PubMed - indexed for MEDLINE]

☐ **138:** [Lindhorst TK, Kieburg C, Krallmann-Wenzel U.](#) Related Articles, Links



Inhibition of the type 1 fimbriae-mediated adhesion of Escherichia coli to erythrocytes by multiantennary alpha-mannosyl clusters: the effect of multivalency.  
Glycoconj J. 1998 Jun;15(6):605-13.  
PMID: 9881767 [PubMed - indexed for MEDLINE]

☐ **139:** [Schembri MA, Klemm P.](#) Related Articles, Links



Heterobinary adhesins based on the Escherichia coli FimH fimbrial protein.  
Appl Environ Microbiol. 1998 May;64(5):1628-33.  
PMID: 9572927 [PubMed - indexed for MEDLINE]

☐ **140:** [Pierres A, Benoliel AM, Bongrand P.](#) Related Articles, Links



Use of a laminar flow chamber to study the rate of bond formation and dissociation between surface-bound adhesion molecules: effect of applied force and distance between surfaces.  
Faraday Discuss. 1998;(111):321-30; discussion 331-43.  
PMID: 10822617 [PubMed - indexed for MEDLINE]

☐ **141:** [Baorto DM, Gao Z, Malaviya R, Dustin ML, van der Merwe A, Lublin DM, Abraham SN.](#) Related Articles, Links



Survival of FimH-expressing enterobacteria in macrophages relies on glycolipid traffic.  
Nature. 1997 Oct 9;389(6651):636-9.  
PMID: 9335508 [PubMed - indexed for MEDLINE]

☐ **142:** [Pan YT, Xu B, Rice K, Smith S, Jackson R, Elbein AD.](#) Related Articles, Links



Specificity of the high-mannose recognition site between Enterobacter cloacae pili adhesin and HT-29 cell membranes.  
Infect Immun. 1997 Oct;65(10):4199-206.  
PMID: 9317027 [PubMed - indexed for MEDLINE]


☐ **143:** [Thankavel K, Madison B, Ikeda T, Malaviya R, Shah AH, Arumugam PM, Abraham SN.](#) Related Articles, Links




Localization of a domain in the FimH adhesin of Escherichia coli type 1 fimbriae capable of receptor recognition and use of a domain-specific antibody to confer

protection against experimental urinary tract infection.  
J Clin Invest. 1997 Sep 1;100(5):1123-36.  
PMID: 9276729 [PubMed - indexed for MEDLINE]


 **144:** Sokurenko EV, Chesnokova V, Doyle RJ, Hasty DL. [Related Articles, Links](#)

 Diversity of the Escherichia coli type 1 fimbrial lectin. Differential binding to mannosides and uroepithelial cells.  
J Biol Chem. 1997 Jul 11;272(28):17880-6.  
PMID: 9211945 [PubMed - indexed for MEDLINE]


 **145:** Zita A, Hermansson M. [Related Articles, Links](#)

 Effects of bacterial cell surface structures and hydrophobicity on attachment to activated sludge flocs.  
Appl Environ Microbiol. 1997 Mar;63(3):1168-70. No abstract available.  
PMID: 9055433 [PubMed - indexed for MEDLINE]


 **146:** Johnson JR, Swanson JL, Barela TJ, Brown JJ. [Related Articles, Links](#)

 Receptor specificities of variant Gal(alpha1-4)Gal-binding PapG adhesins of uropathogenic Escherichia coli as assessed by hemagglutination phenotypes.  
J Infect Dis. 1997 Feb;175(2):373-81.  
PMID: 9203658 [PubMed - indexed for MEDLINE]


 **147:** Schembri MA, Pallesen L, Connell H, Hasty DL, Klemm P. [Related Articles, Links](#)

 Linker insertion analysis of the FimH adhesin of type 1 fimbriae in an Escherichia coli fimH-null background.  
FEMS Microbiol Lett. 1996 Apr 1;137(2-3):257-63.  
PMID: 8998995 [PubMed - indexed for MEDLINE]


 **148:** Klemm P, Schembri M, Hasty DL. [Related Articles, Links](#)


 The FimH protein of type 1 fimbriae. An adaptable adhesin.  
Adv Exp Med Biol. 1996;408:193-5. Review. No abstract available.  
PMID: 8895793 [PubMed - indexed for MEDLINE]


 **149:** Pallesen L, Poulsen LK, Christiansen G, Klemm P. [Related Articles, Links](#)

 Chimeric FimH adhesin of type 1 fimbriae: a bacterial surface display system for heterologous sequences.  
Microbiology. 1995 Nov;141 ( Pt 11):2839-48.  
PMID: 8535512 [PubMed - indexed for MEDLINE]


 **150:** Cassels FJ, Hughes CV, Nauss JL. [Related Articles, Links](#)

 Adhesin receptors of human oral bacteria and modeling of putative adhesin-binding domains.  
J Ind Microbiol. 1995 Sep;15(3):176-85. Review.  
PMID: 8519475 [PubMed - indexed for MEDLINE]

 **151:** Sokurenko EV, Courtney HS, Maslow J, Siitonen A, Hasty DL. [Related Articles, Links](#)

 Quantitative differences in adhesiveness of type 1 fimbriated Escherichia coli due to structural differences in fimH genes.  
J Bacteriol. 1995 Jul;177(13):3680-6.  
PMID: 7601831 [PubMed - indexed for MEDLINE]

 **152:** Goldhar J. [Related Articles, Links](#)

 Erythrocytes as target cells for testing bacterial adhesins.  
Methods Enzymol. 1995;253:43-50. Review. No abstract available.

PMID: 7476407 [PubMed - indexed for MEDLINE]

 **153:** Prakobphol A, Leffler H, Fisher SJ.

[Related Articles](#), [Links](#)



Identifying bacterial receptor proteins and quantifying strength of interactions they mediate.

Methods Enzymol. 1995;253:132-42. No abstract available.

PMID: 7476382 [PubMed - indexed for MEDLINE]

 **154:** Gibson FC 3rd, Tzianabos AO, Rodgers FG.


[Related Articles](#), [Links](#)



Adherence of Legionella pneumophila to U-937 cells, guinea-pig alveolar macrophages, and MRC-5 cells by a novel, complement-independent binding mechanism.

Can J Microbiol. 1994 Oct;40(10):865-72.

PMID: 8000965 [PubMed - indexed for MEDLINE]

 **155:** Malaviya R, Ross EA, MacGregor JI, Ikeda T, Little JR, Jakschik BA, Abraham SN.

[Related Articles](#), [Links](#)



Mast cell phagocytosis of FimH-expressing enterobacteria.

J Immunol. 1994 Feb 15;152(4):1907-14.

PMID: 8120397 [PubMed - indexed for MEDLINE]

 **156:** Puntaric V, Borcic D, Bejuk D, Vrhovec B, Madic J, Busch K, Richter B.


[Related Articles](#), [Links](#)



Haemotropic bacteria in man.

Lancet. 1994 Feb 5;343(8893):359-60. No abstract available.

PMID: 7905172 [PubMed - indexed for MEDLINE]

 **157:** Falk P, Boren T, Haslam D, Caparon M.

[Related Articles](#), [Links](#)



Bacterial adhesion and colonization assays.

Methods Cell Biol. 1994;45:165-92. Review. No abstract available.

PMID: 7707985 [PubMed - indexed for MEDLINE]

 **158:** Stromberg N.

[Related Articles](#), [Links](#)



Carbohydrates as recognition molecules for bacterial adhesins: methodology and characteristics.

Arch Oral Biol. 1990;35 Suppl:131S-135S.

PMID: 1982404 [PubMed - indexed for MEDLINE]

 **159:** Brooks DE, Cavanagh J, Jayroe D, Janzen J, Snoek R, Trust TJ.

[Related Articles](#), [Links](#)



Involvement of the MN blood group antigen in shear-enhanced hemagglutination induced by the Escherichia coli F41 adhesin.

Infect Immun. 1989 Feb;57(2):377-83.

PMID: 2563256 [PubMed - indexed for MEDLINE]

 **160:** Giampapa CS, Abraham SN, Chiang TM, Beachey EH.

[Related Articles](#), [Links](#)



Isolation and characterization of a receptor for type 1 fimbriae of Escherichia coli from guinea pig erythrocytes.

J Biol Chem. 1988 Apr 15;263(11):5362-7.

PMID: 2895767 [PubMed - indexed for MEDLINE]

 **161:** Owens NF, Gingell D, Rutter PR.

[Related Articles](#), [Links](#)



Inhibition of cell adhesion by a synthetic polymer adsorbed to glass shown under defined hydrodynamic stress.

J Cell Sci. 1987 Jun;87 ( Pt 5):667-75.

PMID: 3312253 [PubMed - indexed for MEDLINE]



☐ **162:** [Brooks DE, Trust TJ.](#)[Related Articles, Links](#)

Enhancement of bacterial adhesion by shear forces: characterization of the haemagglutination induced by *Aeromonas salmonicida* strain 438.

J Gen Microbiol. 1983 Dec;129(12):3661-9.

PMID: 6668467 [PubMed - indexed for MEDLINE]

☐ **163:** [Brooks DE, Trust TJ.](#)[Related Articles, Links](#)

Interactions of erythrocytes with bacteria under shear.

Ann N Y Acad Sci. 1983;416:319-31. No abstract available.

PMID: 6145382 [PubMed - indexed for MEDLINE]

☐ **164:** [Berg HC, Turner L.](#)[Related Articles, Links](#)

Movement of microorganisms in viscous environments.

Nature. 1979 Mar 22;278(5702):349-51. No abstract available.

PMID: 370610 [PubMed - indexed for MEDLINE]

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☐ 1: [Procopio Evagrio George N, Wei Q, Kyun Shin P, Konstantopoulos K, Ross JM.](#) Related Articles, Links

Staphylococcus aureus Adhesion via Spa, ClfA and SdrCDE to Immobilized Platelets Demonstrates Shear-Dependent Behavior. Arterioscler Thromb Vasc Biol. 2006 Jul 20; [Epub ahead of print] PMID: 16857949 [PubMed - as supplied by publisher]

☐ 2: [Nilsson LM, Thomas WE, Trintchina E, Vogel V, Sokurenko EV.](#) Related Articles, Links

Catch bond-mediated adhesion without a shear threshold: trimannose versus monomannose interactions with the FimH adhesin of Escherichia coli. J Biol Chem. 2006 Jun 16;281(24):16656-63. Epub 2006 Apr 19. PMID: 16624825 [PubMed - indexed for MEDLINE]

☐ 3: [Nilsson LM, Thomas WE, Sokurenko EV, Vogel V.](#) Related Articles, Links

Elevated shear stress protects Escherichia coli cells adhering to surfaces via catch bonds from detachment by soluble inhibitors. Appl Environ Microbiol. 2006 Apr;72(4):3005-10. PMID: 16598008 [PubMed - indexed for MEDLINE]

☐ 4: [Thomas WE, Nilsson LM, Forero M, Sokurenko EV, Vogel V.](#) Related Articles, Links

Shear-dependent 'stick-and-roll' adhesion of type 1 fimbriated Escherichia coli. Mol Microbiol. 2004 Sep;53(5):1545-57. PMID: 15387828 [PubMed - indexed for MEDLINE]

☐ 5: [Mascari LM, Ross JM.](#) Related Articles, Links

Quantification of staphylococcal-collagen binding interactions in whole blood by use of a confocal microscopy shear-adhesion assay. J Infect Dis. 2003 Jul 1;188(1):98-107. Epub 2003 Jun 23. PMID: 12825177 [PubMed - indexed for MEDLINE]

☐ 6: [Thomas WE, Trintchina E, Forero M, Vogel V, Sokurenko EV.](#) Related Articles, Links

Bacterial adhesion to target cells enhanced by shear force. Cell. 2002 Jun 28;109(7):913-23. PMID: 12110187 [PubMed - indexed for MEDLINE]

☐ 7: [Reddy K, Ross JM.](#) Related Articles, Links

Shear stress prevents fibronectin binding protein-mediated Staphylococcus

aureus adhesion to resting endothelial cells.  
Infect Immun. 2001 May;69(5):3472-5.  
PMID: 11292778 [PubMed - indexed for MEDLINE]

☐ **8:** [Li ZJ, Mohamed N, Ross JM.](#)

[Related Articles, Links](#)



Shear stress affects the kinetics of Staphylococcus aureus adhesion to collagen.

Biotechnol Prog. 2000 Nov-Dec;16(6):1086-90.  
PMID: 11101338 [PubMed - indexed for MEDLINE]

☐ **9:** [Brooks DE, Cavanagh J, Jayroe D, Janzen J, Snoek R, Trust TJ.](#)

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Involvement of the MN blood group antigen in shear-enhanced hemagglutination induced by the Escherichia coli F41 adhesin.

Infect Immun. 1989 Feb;57(2):377-83.  
PMID: 2563256 [PubMed - indexed for MEDLINE]

☐ **10:** [Brooks DE, Trust TJ.](#)

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Interactions of erythrocytes with bacteria under shear.

Ann N Y Acad Sci. 1983;416:319-31. No abstract available.  
PMID: 6145382 [PubMed - indexed for MEDLINE]

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-  Bacterial adhesion to target cells enhanced by shear force.  
Cell. 2002 Jun 28;109(7):913-23.  
PMID: 12110187 [PubMed - indexed for MEDLINE]
- ☐ **97:** Hung CS, Bouckaert J, Hung D, Pinkner J, Widberg C, DeFusco A, Auguste CG, Strouse R, Langermann S, Waksman G, Hultgren SJ. Related Articles, Links  
Structural basis of tropism of Escherichia coli to the bladder during urinary tract infection.  
Mol Microbiol. 2002 May;44(4):903-15.  
PMID: 12010488 [PubMed - indexed for MEDLINE]
- ☐ **98:** McClaine JW, Ford RM. Related Articles, Links  
 Characterizing the adhesion of motile and nonmotile Escherichia coli to a glass surface using a parallel-plate flow chamber.  
Biotechnol Bioeng. 2002 Apr 20;78(2):179-89.  
PMID: 11870609 [PubMed - indexed for MEDLINE]
- ☐ **99:** Qian X, Metallo SJ, Choi IS, Wu H, Liang MN, Whitesides GM. Related Articles, Links  
 Arrays of self-assembled monolayers for studying inhibition of bacterial adhesion.  
Anal Chem. 2002 Apr 15;74(8):1805-10.  
PMID: 11985311 [PubMed - indexed for MEDLINE]
- ☐ **100:** Min G, Stolz M, Zhou G, Liang F, Sebbel P, Stoffler D, Glockshuber R, Sun TT, Aebi U, Kong XP. Related Articles, Links  
 Localization of uroplakin Ia, the urothelial receptor for bacterial adhesin FimH, on the six inner domains of the 16 nm urothelial plaque particle.  
J Mol Biol. 2002 Apr 12;317(5):697-706.  
PMID: 11955018 [PubMed - indexed for MEDLINE]
- ☐ **101:** Lin CC, Yeh YC, Yang CY, Chen CL, Chen GF, Chen CC, Wu YC. Related Articles, Links  
 Selective binding of mannose-encapsulated gold nanoparticles to type 1 pili in Escherichia coli.  
J Am Chem Soc. 2002 Apr 10;124(14):3508-9. No abstract available.  
PMID: 11929231 [PubMed - indexed for MEDLINE]
- ☐ **102:** Van Loy CP, Sokurenko EV, Moseley SL. Related Articles, Links  
 The major structural subunits of Dr and F1845 fimbriae are adhesins.  
Infect Immun. 2002 Apr;70(4):1694-702.  
PMID: 11895931 [PubMed - indexed for MEDLINE]
- ☐ **103:** Gao M, Lu H, Schulten K. Related Articles, Links  
 Unfolding of titin domains studied by molecular dynamics simulations.  
J Muscle Res Cell Motil. 2002;23(5-6):513-21.  
PMID: 12785101 [PubMed - indexed for MEDLINE]
- ☐ **104:** Kjaergaard K, Schembri MA, Klemm P. Related Articles, Links  
 Novel Zn(2+)-chelating peptides selected from a fimbria-displayed random peptide library.  
Appl Environ Microbiol. 2001 Dec;67(12):5467-73.  
PMID: 11722894 [PubMed - indexed for MEDLINE]
- ☐ **105:** Nablo BJ, Chen TY, Schoenfisch MH. Related Articles, Links  
 Sol-gel derived nitric-oxide releasing materials that reduce bacterial adhesion.  
J Am Chem Soc. 2001 Oct 3;123(39):9712-3. No abstract available.

**Related Links**

Dynamics of neutrophil aggregation in couette flow revealed by videomicroscopy: effect of shear rate on two-body collision efficiency and doublet lifetime. [Biophys J. 2001]

Hydrodynamic effects and receptor interactions of platelets and their aggregates in linear shear flow. [Biophys J. 1997]

Kinetics and locus of failure of receptor-ligand-mediated adhesion between latex spheres. I. Protein-carbohydrate bond. [Biophys J. 1996]

Interaction forces between red cells agglutinated by antibody. IV. Time and force dependence of break-up. [Biophys J. 1993]

Selectin receptor-ligand bonds: Formation limited by shear rate and dissociation governed by the Bell model. [Proc Natl Acad Sci U S A. 2001]

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